

The most precious values

*Water*  
*Nature*  
*and*  
*People*

K-water  
2011 Sustainability Report



**Publication Objective** By providing clean water resource on a stable basis, K-water has contributed to developing the welfare of the people. With this report, K-water will convey its sustainable business values which include economic profitability, environmental wholesomeness and corporate social responsibility, as well as its efforts to implement them and resulting performance in a transparent way.

**Report Publication** The "2011 Sustainability Report" is the 7th Report published. The Report is published every year, encompassing K-water's sustainable management strategies, activities and performance, and future plans. The Report summarizes K-water's economic performance, environmental soundness and Social Responsibility. The previous Report was published in August, 2010.

**Reporting Principles** This Report was prepared based on GRI's Sustainability Reporting Guidelines (G3). Greater details of the GRI Index can be found on pages 101-104 of this report.

**Target Readers** This Report was prepared for all stake holders such as customers, local communities, government, cooperative firms, executives & employees, and non-governmental organizations (NGO) that are directly or indirectly influenced by K-water's management activities.

**Reporting Period** The reporting period is from January 1 to December 31, 2010. Qualitative performance up until June 2011 is partially covered in the Report, while the quantitative performance includes 4 years worth of data from 2007 to 2010. K-water's fiscal year is from January 1 to December 31.

**Scope of Report** This Report covers K-water's sustainable management status and performance of its head office, 8 regional headquarters, 32 domestic worksites, and overseas operations (14 projects in 12 countries). Since K-water's overseas operations are project-based and not worksites, only their business performances are reflected in the Report.

**Changes** During the reporting period, there were no major changes in terms of size, structure, standard year, or governance structure. However, there were changes in application standards for comparing certain data and calculation methods compared to that of the previous year.

**Report Assurance** Third party assurance of the data and selected sentences of the Report was carried-out by KMAR to enhance the credibility of the Report. The assurance opinion is included on pages 102-103.

**Additional Information** This Report can also be viewed on K-water's homepage ([www.kwater.or.kr](http://www.kwater.or.kr)). If additional information on K-water's sustainable management activities is required, please contact K-water's Performance Management Team (Tel: +82-42-629-2364, Fax: +82-42-629-2399).

**The Applicable Level of GRI G3 Guidelines** This is to disclose that K-water's Sustainable Management Report fully satisfies the requirements of 'A+' standards outlined in the GRI REPORT Guideline. An independent 3rd party assurance agency, KMAR has verified that this report is compliant with 'A+', GRI G3 Guidelines.

#### Awards & Accomplishments

Apr. 2007	2007 Most Respected Corporate Excellence Award (The Federation of Korean Industries, Seoul Economic Daily)
May 2007	Global Standard Grand Prize & Excellence CEO Award (The Korea Management Association)
May 2007	Family-friendly Corporate Excellence Prime Ministers Award (Ministry of Gender Equality)
Jul. 2007	Certified as a Corporation with Excellent Service Quality (Ministry of Knowledge Economy, Korean Agency for Technology and Standards)
Oct. 2007	Award for Digital Knowledge Management (Ministry of Knowledge Economy)
Nov. 2007	ISO/IEC 20000 (Information Quality) Certification (LRQA)
Nov. 2007	The President's Award for Sewage Treatment and Environmental Technology (Ministry of Environment)
Nov. 2007	LOHAS Management Award (Korea Green Foundation)
Dec. 2007	The Best Sustainable Management Award (Ministry of Knowledge Economy, Korea Chamber of Commerce and Industry)
Apr. 2008	Award for Korea's Digital Management Innovation (Ministry of Knowledge Economy, Maeil Economic Daily)
Oct. 2008	Grand Prize for Social Contribution (The Korea Journalist Forum)
Oct. 2008	The Best Sustainable Management Award (Ministry of Knowledge and Economy, Korea Chamber of Commerce and Industry)
Oct. 2008	2008 Korea Environment-friendly Award (Ministry of Environment)
Oct. 2008	Asia Most Admired Knowledge Enterprise Award (Teleos/UK)
Jan. 2009	The Grand Prize for Sustainable and Creative Management [Environmental Management] (Ministry of Knowledge Economy, UN Global Compact)
Oct. 2009	Low Carbon Green Growth Excellence Company Award (Presidential Committee on Green Growth, Ministry of Environment)
	New & Renewable Energy Prime Minister Grand Prize (Ministry of Knowledge Economy)
	Asia Most Admired Knowledge Enterprise Award (Teleos/UK)
Dec. 2010	National Grand Award for Green Technology (Ministry of Knowledge Economy and Ministry of Education, Science and Technology)
Jun. 2011	2011 Grand Award for Green Management in Korea (Ministry of Knowledge Economy and Ministry of Education, Science and Technology)

#### Membership Activities

Nov. 1971	Korea National Committee on Large Dams
Jan. 1976	Korea Electric Association
Dec. 1985	Korea Energy Foundation
Mar. 1997	Korea Electric Engineers Association
May. 2001	Korea Power Exchange
Sep. 2001	Korea New & Renewable Energy Association
Jan. 2002	Korea Water and Wastewater Works Association
Mar. 2004	Korean Association of Environment Impact Assessment
Sep. 2004	Korea Business Council for Sustainable Development
Oct. 2005	Korea Engineering and Consulting Association
Jul. 2006	Business Ethics and Sustainable management for Top Performance (BEST) Forum
Feb. 2007	UN Global Compact
Feb. 2007	U-City Forum
Mar. 2007	International Water Association (IWA)
Mar. 2007	American Waterworks Association (AWWA)

# THE MOST PRECIOUS VALUES

**K-water**

**2011 Sustainability Report**

WATER, NATURE & PEOPLE

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©: Importance Level: Very High

○: Importance Level: High

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**Dear customers!**

**K-water has been doing its utmost to create a happier world with water by enhancing customer values and fulfilling our social responsibilities.**

Since the introduction of sustainable management in 2005, K-water has tried to realize its corporate mission, 'Water for the Happier World', to contribute to society on account of your continual support and encouragement. From the perspective of sustainable development, K-water is striving to advance in a balanced way in terms of economic profitability, environmental wholesomeness and social responsibility.

An aspect of today's global business environment is international cooperation for green growth even though the competition is intense. At the G20 Seoul Summit held during the global financial crisis, an agreement was made on international cooperation for the sake of green growth, while competitions to acquire green technologies and green industries are getting fiercer and fiercer day by day.

In such a competitive business environment, K-water has achieved a 6.9% increase in revenue growth for 2010. The company attained considerable achievements in almost every business sector including new projects such as the supply of tap water and dam water, construction of regional waterworks and industrial water supply. We also performed an important role in major national projects such as Gyeong-in Ara Waterway and Four River Restoration.

In addition, the company plans to build five new eco-friendly dams to secure water resources to cope with impending climate change. We also engaged full scale in green city projects in Songsan and Gumi, and laid groundwork for green projects such as Siwha tidal power generation.

In the overseas markets, K-water has been trying to provide clean and clear water to residents around the globe who suffer from a lack of water supply based on its experience in economic development and water management technology. Currently, the company is engaging in projects worth KRW 808.5 billion in 12 countries.

In 2010, K-water increased investment in the environment by 55% compared to the previous year to accelerate the eco-friendly green development drive. For the first time in Korea, the company acquired certification for a low carbon tap water product. Also, to remove green algae in dam water to manage the water quality more effectively, we developed a new dedicated ship which received the National Green Technology Award from the Minister of Science and Technology.

Furthermore, to enhance communication with stakeholders including local communities, K-water has engaged in diverse activities. We have built eco-friendly agricultural complexes around dams and held a job-sharing campaign to improved communications with local communities. The company has enhanced collaborative relationships with its partners including the building of partnership councils and supporting partners to build an environment management system. We have also expanded global corporate social responsibility activities such as the development of a drinking water supply in other countries.

The company has been recognized for such economic, environmental, and social performances and has been selected as the highest ranking organization in the government management performance evaluation achieving a Grade A for three consecutive years. We have also been the awarded Korea Management Quality Awards and won the Asian MAKE Award [Most Admired Knowledge Enterprises] for three consecutive years.

#### First, we will solidify the groundwork for management.

For sustainable growth, we will create new business opportunities and save costs based on managerial innovation to improve our financial structure. We will also try to enhance our corporate competencies to the global level through the upbringing of prestigious talent.

#### Second, we will do our best to complete government-sponsored projects such as Gyeong-in Ara Waterway and Four River Restoration Project.

Through impeccable quality management in every sector based on creative ideas, we will build masterpieces which will be passed on to our posterity.

#### Third, we will continue to upgrade our water management.

In the water resource management sector, we will concentrate on building competency to secure water vessels with sufficient capacity and to cope with climate change. In the waterworks management sector, we will try to enhance the efficiency of projects based on the economy of scale to resolve an imbalance between regional water supplies, linking of local waterworks in small- to medium-sized regions, and the integration of waterworks networks and drainage systems. We will also concentrate on the creation of low carbon green city amalgamating land and water to materialize the value of water, not only for its utility value but also for its environmental value for urban environments.

#### Finally, we will try to be a public corporation dependable and trustworthy to our customers.

We will protect the people from water-related disasters and provide top-rate services to the people by supplying clean water affluently, protect socially disadvantaged people based on continual corporate social responsibility activities, and consolidate partnerships with small-to medium-sized enterprises. Internally, we will implement ethical management and enhance in-house communications to settle a fair and equitable corporate culture in a timely manner. In this way, we will sharpen our competitive edges even further based on trust in and out of the company.

Through our core values, "Purity, Passion and Creativity," K-water will move forward towards a new and promising future. We hope for your continual encouragements on our efforts and challenges.

Thank you.

August 2011

President of K-water Kim Kuen Ho *Kim Kuen Ho*

Mankind is experiencing a “water bankruptcy” situation now.  
If water is managed in the coming future the way it has been in the past,  
the economic structure will collapse.  
Water shortage issues are broad and the systematic issue  
is that a solution has to be made accordingly.

Secretary General Ban Ki-mun of UN, Davos Forum 2009







## Corporate Overview \*

• <b>Corporate Name</b>	K-water, Korea Water Resources Corporation
• <b>Date Established</b>	November 16, 1967
• <b>Capital</b>	KRW 10,523.7 Billion
• <b>Total Liabilities</b>	KRW 7,960.7 Billion
• <b>Total Assets</b>	KRW 18,484.4 Billion
• <b>Sales</b>	KRW 2,144.7 Billion
• <b>Major Operations</b>	Construction & Management of Multipurpose Dams, Construction & Management of Multi-regional Waterworks, Operation & Management of Local Waterworks, and Development of Industrial Complexes
• <b>Products &amp; Services</b>	Flood control, Water Supply & Power Generation, Water Supply, and Industrial Water Development & Supply to Industrial Complexes
• <b>Worksites</b>	Head Office, 8 Regional Headquarters, 32 Worksites, International Operations (14 Projects in 12 Countries)
• <b>Employees &amp; Executives</b>	4,149
• <b>Investor Composition</b>	Korean Government 90.9%, Local Governments 0.1%, Korea Finance Corporation 9.0%
• <b>Corporate Shareholder Composition</b>	Chilgok Enviro Ltd. 49.0%, Kyungin Canal Ltd. 19.4%, KDS Hydro Pte. Ltd 58.8%, Korea Construction Management Corporation Ltd. 18.9%, Green JangRyang Ltd. 5.0%
• <b>Head Office Location</b>	560 Sintanjin-ro, Daedeok-gu, Daejeon

\*As of December 31, 2010



| Head Office & 8 Regional Headquarters |

## Water is wisdom

From water, we learn the wisdom of modesty, always flowing towards a lower point.

We learn that the true nature will not oscillate, even though the shape of the vessel is changing.

We learn the strategy and passion to continuously look for new ways to go ahead and never stop.

We learn the generosity that water purifies everything that enters into it.

At K-water, we draw knowledge for the future from the wise water.

10\_Forecast & Outlook / 12\_Sustainable Management Vision and Strategy / 16\_Business Strategy and Structure  
18\_Creative Innovation Management / 20\_Sustainable R&D Investments



A photograph of a traditional wooden water wheel (saqiya) in a clear stream. The wheel is constructed from light-colored wood and is supported by two vertical wooden posts. The water flows over the wheel's blades, creating a small waterfall. The background is a lush green forest with tall trees and a bright, hazy sky. The word "STRATEGY" is overlaid in white, bold, uppercase letters on a semi-transparent dark green horizontal band across the middle of the image.

# STRATEGY

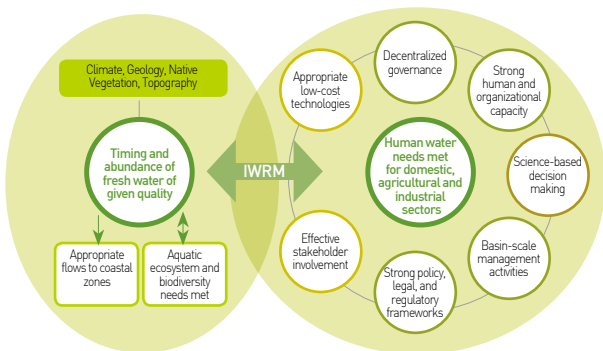
## Forecast & Outlook

K-water is committed to realizing safe water management under climate change as a government owned corporation specialized in integrated management of water resources by heightening the national water security as well as duly undertaking the anchor role of water industry fostering.

### ● Paradigm Shift in Water Resources Management

Due to the influence of climate change, water resources management has become more complex and uncertain. The conventional water management method will no longer guarantee the safety of water use, flood defense and ecological environment under climate change. In fact, Australia has slipped from fifth to ninth place in a ranking of 59 countries' competitiveness due to severe floods in January 2011. The water management of present day has become the agenda directly related to national competitiveness as well as national security. Protecting national living, industrial activities and ecological environment safely from floods, droughts and pollutions is becoming an important duty for each country. Many countries around the world have come forward in water management innovation to effectively undertaking such tasks. In an era of progressive and fundamental changes in water management, the paradigm shift has been undertaken. The International community has presented integrated water resources management(IWRM) as the new water management method to fit to the changed paradigm.

#### | Basic Framework of Implementing IWRM |



※ Source : Global Water Partnership

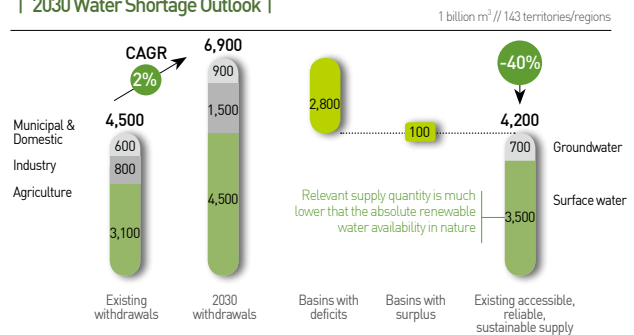
Countries around the world have equipped themselves with basic frameworks to implement integrated water resources management through the improvement of laws and systems. The paradigm shift in water management has become a great challenge to public enterprises managing water resources. Under the situation where complexity and uncertainty have become serious due to climate change, there is a need for water management based on short-term, mid-term and long-term forecasting with high accuracy in consideration of integrated point of view and overall situation in the region. In addition, there is a demand of undertaking the anchor role of low carbon green growth in addition to its intrinsic water management activities. The tasks of heightening the energy efficiency in water supply, extending new and renewable energy in

connection to water management, and supporting the SME and venture technologies for global marketing have been newly granted. Furthermore, by linking the cities with water management, there is a demand for K-water to undertake the leading role in making more attractive waterfront cities for living, playing and working.

### ● Upcoming water Shortage

During the 20th century, global water withdrawals have increased faster than the population growth rate. While the population increased by 3.7 times, the water withdrawals have increased by 6.7 times. Unlike other resources, water resources can be used again without the concern of depletion. However, there is a limit in gross volume to use during a certain period of time. The total water resources that human can use sustainably has limitations. The total water resource that human can use on earth have reached its limit.

#### | 2030 Water Shortage Outlook |



※ Source : 2030 Water Resources Group, 2009

According to "Charting Our Water Future" report prepared by the World Bank and McKinsey Consulting in 2009, the global supply of reliable water resources has declined due to increased demand since the late 2000s. Furthermore, in 2030, only 60% of global water demand will be stably supplied. Each country around the world depends indirectly on water resources of overseas markets through trading of agricultural products, livestock products, and industrial goods. Virtual water, the water resources moving through countries by international trades, has exceeded 40% of global water withdrawal volume as of 2000. Annual water use per capita in Korea has yet to reach the world average. Among the OECD countries, water use in Korea is rather significantly small. However, it depends on overseas for 62% of annual water resource use volume and has been assessed as being particularly vulnerable to the global water shortage situation.

### | Annual water use per capita |

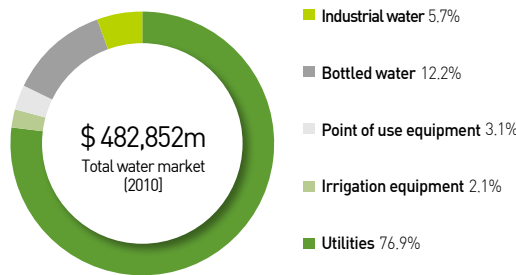
In-take water volume of water resource		Total volume of water use (including virtual water)	
World average	Korea	World average	Korea
570m <sup>3</sup>	537m <sup>3</sup>	1,243m <sup>3</sup>	1,179m <sup>3</sup>

※ Source: Water Footprint, 2004

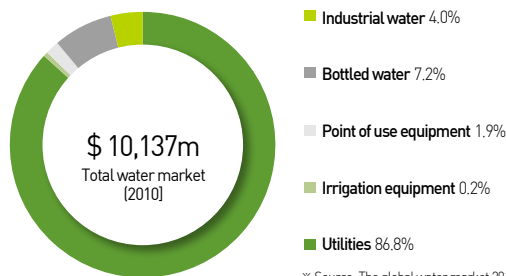
### ● Trend of global water industry

The global water industry is a unit industry that has a scale of 4,828 bil USD as of 2010, making it the sixth largest industry, following petroleum, automobile, power, IT and mobile communication. By 2030, the water infra will be the largest in terms of investment demand from entire infra and it is in the situation to increase investment on an ongoing basis, unlike other infra structures such as power, road, railway, airport, port and others.

### | The global water market, 2010 |



### | Market forecast breakdown, 2010 |



※ Source: The global water market 2011, 2010

According to the Ministry of Economy, Trade and Industry of Japan, the water industry is expected to have a high growth rate of 7.7% annually up to 2025. In particular, the manufacturing and construction field will have a 10.4% growth rate, far ahead of operation and management field for 5.4%, which will be 56.1% of entire water industry by 2025. Water industry technologies will also break away from its conventional phase to go through the fusion and convergence processes with IT, BT, NT and others to quickly advance to Green-tech.

As the complexity and uncertainty grow larger for water management due to the climate change, the global water industry demands an integrated solution in connection with water, sewer services, water resource, and river management technologies. For example, the Netherlands has actively expanded into the overseas market by dividing the water industry into water and sewer technology and Delta technology in 2005, it has annual water industry export of 11 trillion won with the Delta technology field related to water resource, river management, water-friendly development and others for over 7 trillion won in 2009. Japan also has been working on

comprehensive overseas advancement strategy on water resource, river, and water fields since 2010.

By reflecting on the characteristics of the water industry as a comprehensive applied industry in connection to broad fields, there is a movement to secure the advantage in the global competition with multi-national water enterprises, such as Veolia and Suez of France by integrating related fields through structuring national level Water Partnerships, building up water industry clusters and the likes.

### | World and Korea Market share rate |

Unit: Trillion won

Industry classification	Domestic market size (World market share rate, %)	World market size
Shipbuilding	283	85 (30.1%)
Auto manufacturing	1,114	61 (5.5%)
Mobile phone	140	23 (16.1%)
Memory	70	31 (44.1%)
Semi-conductor	328	37 (11.3%)
WATER industry	588	12 (2.1%)

Source: 1) www.isuppli.com, 2) Reuters, KOTRA, Jan. 12, 2006  
 3) Korea Electronics Association, As of sales amount, April 2007  
 4) Hyundai Motors, KIA Motors(Automobile Industry), Korean Statistical Information Service, 2006

### ● Development of water industry of government and role of K-water

The government has been undertaking policies to develop the water industry as the new green engine of the country since 2006. The R&D investment in new technologies in the water industry has been executed and has implemented the 4-river restoration business, a major integrated water management project for responding to the climate changes. The foundation for Korea to take advantage in the global integrated water management market has been secured. In particular, with the report of the water industry growth by the Presidential Committee on Green Growth in Oct. 2010 as the turning point, the efforts of government-wide levels have been focused on expanding the water industry to advance to overseas. K-water plans to do its best in maintaining and strengthening the national safety and competitiveness through stable water supply, disaster prevention, maintenance and restoration of ecology and environment, and others under the ever-complicated and uncertain water management condition caused by climate changes. Furthermore, with a water management institution equipped with global scale technologies, it plans to duly undertake the anchor role for advancing the water industry by utilizing its strength as a national public enterprise that encompasses water resource and water service fields. On the basis of accumulated technologies and knowhow, K-water is to contribute to the sustainable growth and advancement of our country's water industry through the advancement into overseas markets along with private construction companies, development of SME and venture technology companies, and expansion of low carbon green business.



# Sustainable Management Vision and Strategy

By 2019, K-water will have been in existence for half a century, establishing itself as a Global Best.

## ● Revised & complemented Vision and Strategy

K-water has re-established its mid-term and long-term management strategy system for accomplishing its vision for its founding purpose and revised its mid-term and long-term management strategy plan to present the solidification and bigger picture for a new green strategy. The vision and the strategic direction (3Water+) coincides with K-water's current management status and has a wide spread consensus, thus the vision and strategic direction will remain as part of K-water's management strategy. At the same time, the strategic structure, including 10 Implementation Strategies and 30 Strategic Tasks, was revised and complemented. Through a new mid-term and long-term management strategy, K-water will be solidifying its sustainable growth vision with the strategic response to the key issues on management, such as, completion of green new deal business, revision of global water industry structure, increase of financial risk and others.

## ● Vision

The vision has been set as the 'world best comprehensive water service company' that duly undertakes its establishment purpose and fulfilling its role as a public enterprise as well as equipping itself with global competitiveness.

## ● New management of K-water, "G2G wave"

To become a Great corporation through Green growth, the company aims to be the Global Best in five sectors:

**Guard** : A world-class company with a Zero-Accident safety management record

**Renovation** : A company leading in innovation while accustomed to change

**Environment** : An eco-friendly company creating green value

**Ability** : A company bringing up world-class talent

**Technology** : A company leading the market of the future

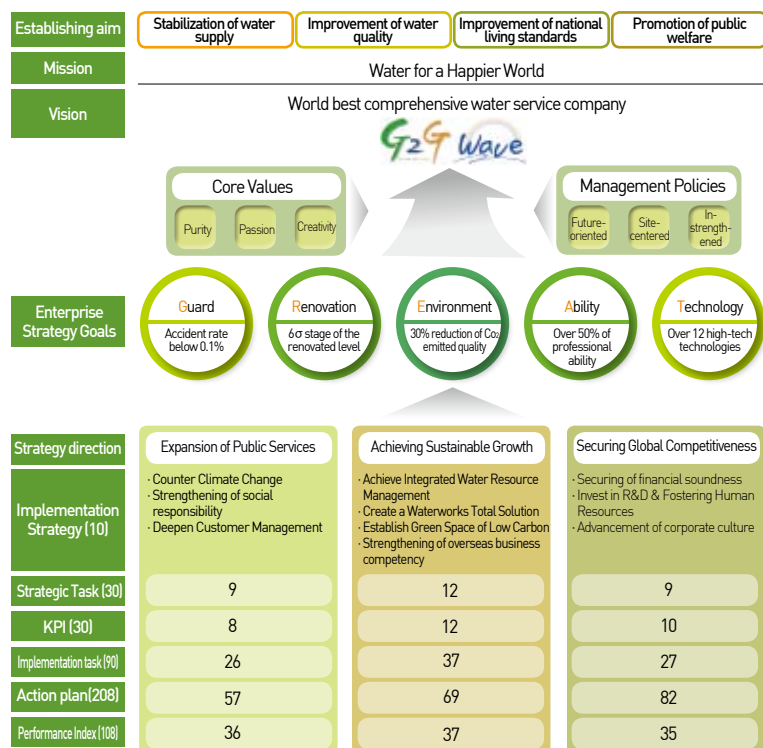
## ● 3 Strategic Directions

The 3 major sustainable management strategic directions enables K-water to achieve a strategic focus and act as a directional beacon for aligning organizational activities, allowing K-water to effectively achieve its vision. This will require expanding public services, achieving continued growth and securing global competitiveness.

**Public Service (Green Water)** : K-water will mean to emphasize a corporation that is loved and trusted by citizens by strengthening water management functions and creating environmental & customer value. It will also have to provide safety from water-related disasters and guarantee a prosperous life through water.

**Sustainable Growth (Blue water)** : Improve Efforts to maintain a sustainable growth platform by creating a new business model based on core competencies by creatively utilizing the business environment such as changing the water management paradigm, fast-growing water industry, and the continuing advent of new green growth policies.




**Global Competitiveness (White water)** : K-water will try to secure global competitiveness by upgrading the organizational structure, improving personnel and labor / management relations to more advanced levels, maintaining financial soundness by expanding sales and achieving cost innovations, and developing core human resources and technologies.



### ● Sustainable Management Implementation Structure

The purpose of the sustainable management initiatives that K-water has implemented is to provide clean water as a public-service, and to ensure that no person or area is alienated. All citizens will receive the benefits of water by improving economic profitability and environmental soundness, and by sincerely fulfilling the corporation's social responsibilities. By carrying-out environmental management and social contribution activities based on economic efficiencies, K-water will create new corporate values and ultimately, it will be recognized as a 'Respected Corporation.' As a result of K-water's sustainable management efforts, it was ranked 1st for its combined score from 40 major public-services on the 'Sustainable Management Index' announced by Kyunghyang Daily. The Index evaluates the economic, environment and social efforts made by corporations.

#### | K-water's Mid-to-Long-term Core Goals for Sustainable Management |

		2010	2015	2019
 <b>Green Water</b>	Response to climate change	<ul style="list-style-type: none"> <li>Water supply capability: 12.2 billion ton</li> <li>Flood control capability: 2.5 billion ton</li> </ul>	<ul style="list-style-type: none"> <li>Water supply capability: 13.3 billion ton</li> <li>Flood control capability: 3.4 billion ton</li> </ul>	<ul style="list-style-type: none"> <li>Water supply capability: 13.8 billion ton</li> <li>Flood control capability: 3.8 billion ton</li> </ul>
	Social responsibility	<ul style="list-style-type: none"> <li>Institute Clean Level: 9.0 point</li> <li>Environmental Performance Index: 137</li> <li>Social Contribution Activity Index: 84</li> </ul>	<ul style="list-style-type: none"> <li>Institute Clean Level: 9.5 point</li> <li>Environmental Performance Index: 154</li> <li>Social Contribution Activity Index: 90</li> </ul>	<ul style="list-style-type: none"> <li>Institute Clean Level: 9.5 point</li> <li>Environmental Performance Index: 160</li> <li>Social Contribution Activity Index: 90</li> </ul>
	Customer-oriented management	<ul style="list-style-type: none"> <li>Effort of high quality supply: 42.4%</li> <li>Customer Satisfaction: A</li> </ul>	<ul style="list-style-type: none"> <li>Effort of high quality supply: 100%</li> <li>Customer Satisfaction: A</li> </ul>	<ul style="list-style-type: none"> <li>Effort of high quality supply: 100%</li> <li>Customer Satisfaction: A</li> </ul>
 <b>Blue Water</b>	Base Business	<ul style="list-style-type: none"> <li>Dam water supply: 5.05 billion ton</li> <li>Tap water supply: 3.33 billion ton</li> <li>Metropolitan Water Operational Level: 67.7%</li> <li>Land sales amount: 169.8 billion won</li> <li>New and renewable energy: 91.5GWh</li> </ul>	<ul style="list-style-type: none"> <li>Dam water supply: 5.55 billion ton</li> <li>Tap water supply: 3.85 billion ton</li> <li>Metropolitan Water Operational Level: 71.6%</li> <li>Land sales amount: 1,145.8 billion won</li> <li>New and renewable energy: 1,025GWh</li> </ul>	<ul style="list-style-type: none"> <li>Dam water supply: 6.01 billion ton</li> <li>Tap water supply: 4.51 billion ton</li> <li>Metropolitan Water Operational Level: 75%</li> <li>Land sales amount: 1,755.6 billion won</li> <li>New and renewable energy: 1,063GWh</li> </ul>
	Growth dynamic business	<ul style="list-style-type: none"> <li>Waterworks Customers: 1,770 million</li> <li>Overseas water supply population: 310,000</li> <li>Overseas sales revenue: 4.4 billion won</li> </ul>	<ul style="list-style-type: none"> <li>Waterworks Customers: 719 million</li> <li>Overseas water supply population: 898 million</li> <li>Overseas sales revenue 331.5 billion won</li> </ul>	<ul style="list-style-type: none"> <li>Waterworks Customers: 1,724 million</li> <li>Overseas water supply population: 2,370 million</li> <li>Overseas sales revenue 886.1 billion won</li> </ul>
 <b>White Water</b>	Financial soundness	<ul style="list-style-type: none"> <li>Operating profit rate: 10.7%</li> <li>Sales increase rate: 6.9%</li> </ul>	<ul style="list-style-type: none"> <li>Operating profit rate: 13.6%</li> <li>Sales increase rate: 14.3%</li> </ul>	<ul style="list-style-type: none"> <li>Operating profit rate: 17.7%</li> <li>Sales increase rate: 12.9%</li> </ul>
	Invest in R&D & Fostering Human Resources	<ul style="list-style-type: none"> <li>Core technology securing: 87%</li> <li>Index of professional human resources: 31.2</li> </ul>	<ul style="list-style-type: none"> <li>Core technology securing: 80%</li> <li>Index of professional human resources: 34</li> </ul>	<ul style="list-style-type: none"> <li>Core technology securing: 100%</li> <li>Index of professional human resources: 35</li> </ul>
	Corporate culture	<ul style="list-style-type: none"> <li>Leadership index: 6.59</li> <li>Trust Index: 64</li> <li>Innovative mileage: 9</li> </ul>	<ul style="list-style-type: none"> <li>Leadership index: 7.8</li> <li>Trust Index: 73</li> <li>Innovative mileage: 14</li> </ul>	<ul style="list-style-type: none"> <li>Leadership index: 8.5</li> <li>Trust Index: 80</li> <li>Innovative mileage: 15</li> </ul>

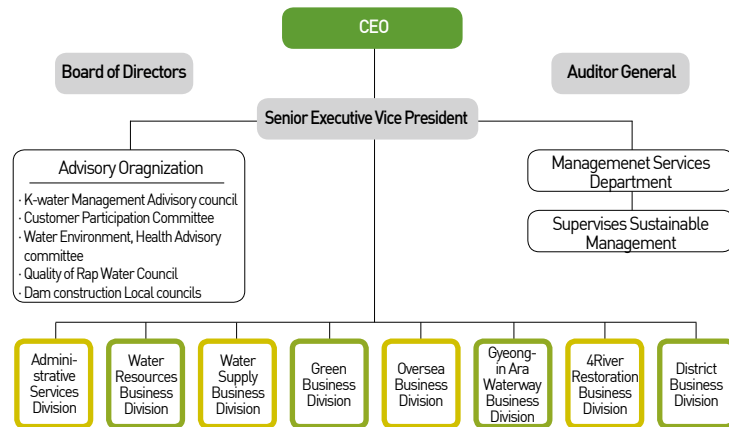
※ Trust Index : Average 87 Points for U.S. Fortune 100 Advanced Corporates

#### | Development Stage of K-water Sustainable Management |

<b>Step1</b> ('04~'05)	<b>Adoption Stage</b>	<ul style="list-style-type: none"> <li>Declaration of the Sustainable Management Vision &amp; Strategy</li> <li>Establishment of the Sustainable Management Mid-to-Long-term Plans</li> <li>Publication of Sustainable Management Reports</li> <li>Establishment of an Environmental Management Structure &amp; Expansion of Programs</li> <li>Foundation of the "Water Love Sharing" Social Volunteer Group</li> </ul>
<b>Step2</b> ('06~'07)	<b>Development Stage</b>	<ul style="list-style-type: none"> <li>Adopt 6 Sigma as a Management Innovation Tool</li> <li>Establishment of a Customer-oriented CRM Master Plan</li> <li>Introduction of the Environmental Performance Patent &amp; Tap Water LCA</li> <li>Extension of Social Contribution Activities towards Local Societies &amp; the Elderly</li> <li>Strengthening of the Ethical Management &amp; Management Transparency</li> </ul>
<b>Step3</b> ('08~'15)	<b>Stabilization Stage</b>	<ul style="list-style-type: none"> <li>More Specialization &amp; Systematization of Social Contribution Activities</li> <li>Implementation &amp; Management of the Mid-to-Long-term Master Plan</li> <li>Enhance Corporate Brand Value through Sincere Social Responsibility</li> <li>Achieve an Integrated Global Water Service Corporation that is Respected</li> </ul>

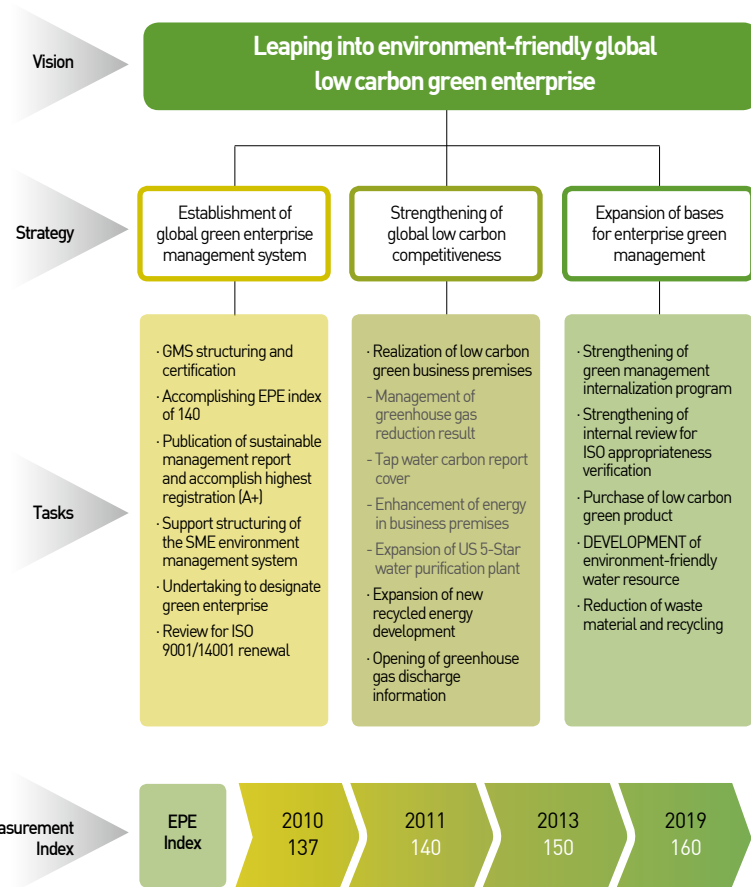
● Sustainable Management Implementation Organization

K-water operates 4 divisions at the head office, with 8 local headquarters and 32 nation-wide management offices (construction offices) to effectively implement sustainable management company-wide. Under the direction of the senior executive vice president, the Management Services Department is in charge of the overall sustainable management, providing stake holders with transparent information through the Sustainable Report which is published annually. At the same time, K-water operates advisory committees and councils to collect diverse opinions and suggestions regarding the economy, environment and society.



● Sustainable Creative Management

K-water will complement its mid-to-long-term strategic management plans by using preventative measures to minimize the effects of water related disasters and safely secure water resources to establish new growth engines that reflect new management environment policies. Through these efforts, K-water will further strengthen its public services to help in national development and enhance public welfare. Through selected and focused strategies, K-water will focus on developing the 3 major growth engines that include the advancement of local Water & Waste Water services, overseas expansion, and the growth of low carbon green businesses. Improvements will also be made in the efficiency of existing facilities, while participating in related new business opportunities in order to achieve sustainable growth. The economic performance derived from these endeavors will be shared with all stakeholders. For more details, please refer to the "Business Implementation Strategy and Structure" on pages 16 & 17.



● Sustainable Environmental Management

Since 2002 K-water has declared internally and externally its environmental management objectives and as such, has continuously carried-out management policies based on environmental-friendliness. K-water has also converted its management structure so as to create harmony between economical performance and the environment. The Environmental Performance Evaluation (EPE) system was setup to systematically manage the environmental effects from business activities and the environmental management performance. At the same time, the strategic implementation of Balanced Score Cards (BSC) is managed by establishing the EPE index to achieve continuous performances and improvements. K-water's environment management surpasses existing legal environmental performance management levels. Its environment management is continuously being upgraded to create new environmental values through risk prevention and Clean Development Mechanism (CDM). K-water is promoting environmentally-friendly communications through the publication of the Sustainable management report. Through the Report,



communications with stake holders have been enhanced, while greater transparency has been achieved in terms of access to information provided. K-water is taking the lead in environmental management by strengthening its global environmental management position through the above activities. A "Master Plan to Counter Climate Change" was established in December 2009 to actively participate in international and domestic green house gas reduction policies. As part of its efforts, K-water has strengthened its carbon management system by establishing its internal carbon reduction targets, preventing floods and drought, by optimizing the climate change adjustment system, and preserving the ecology of water bodies and bio-diversity. Greater emphasis has also been placed on carrying-out its responsibilities in the environment sector by strengthening reservoir water quality and river management, creating Environmentally-friendly spaces at the areas adjacent to dams, and securing environmental soundness for the Green New Deal initiative.

In particular, with the enactment of the 「Frame Act of Low Carbon Green Growth」 in 2010, the energy management, greenhouse gas management and social responsibility has been expanded and converted from the existing environment management system to the green management system, and accordingly, K-water has been undertaking the green management system certification as newly introduced in 2011. In addition, K-water is committed to strengthen its global green competitiveness through realizing the low carbon business premises with the certification for the carbon indication system in all business premises, designation for green enterprises and others.

● Sustainable Open Management

There continues to be greater demand for management transparency of public enterprises and environment-oriented management, while the need for regular communications with customers is growing in importance. K-water's objective is to create a socially sustainable open management by establishing a win-win partnership with each stakeholder to fulfill its corporate social responsibilities. As part of K-water's 9 major management strategies, the social sustainable management strategy strives to enhance the value of the 6 major internal & external stakeholder groups.



| K-water's Social Responsibility Management Direction |

<p><b>Transparent, Ethical Management</b></p> <p>K-water is focusing its efforts to carry-out transparent &amp; credible management activities &amp; processes. Efforts are being made to make sure that ethical management takes root as part of the corporate culture in the daily work and life of all employees &amp; executives.</p>	<p><b>Customer-oriented Management</b></p> <p>K-water is creating a great impression by providing customers with clean water &amp; the highest water supply services.</p>
<p><b>Human Rights Management &amp; Safety/Health</b></p> <p>Taking into consideration all the employees' human rights and safety/health, K-water is committed to protecting the rights of minorities such as those with disabilities and female employees.</p>	<p><b>Win-Win Partnership</b></p> <p>K-water is seeking to achieve mutual benefits through coexistent cooperation such as technology transfers through the formation of partnerships with cooperative firms.</p>
<p><b>Human Resource Management</b></p> <p>To enhance employees' &amp; executives' competencies and value of life, taking into consideration their work capabilities, K-water supports career development opportunities from the time the employee first enters the corporation until after retirement.</p>	<p><b>Local Community Contributions</b></p> <p>K-water contributes to local societies and national development through active social contribution activities by operating diverse cooperative programs for local societies and the public.</p>

| BSC Evaluation Table of Social Responsibility Management |

Division	Results			Aim	Remarks
	2008	2009	2010	2015	
Customer Satisfaction (PCS)	92.6	93.7	97.1	Highest Ranking (Over 90)	Ministry of Strategy and Finance
Institute Clean Level(Audit & Inspection Dept.)	9.2	8.99	9.05	Over 9.5	Anti-corruption & Civil Rights Commission
Social Contribution Index	81	83	84	90	K-water
Core Personnel Index (Personnel Division)	24%	29%	31.2%	34%	K-water

\* Social Contribution Index: Participation Level x 0.3 + Hours of Activity x 0.4 + Fund Contribution Amount x 0.3  
 \* Core Personnel Index: (PhD x1.5 + Masters Degree x 1 + Technician x 1.5 + 6 Sigma Belt x 1)/Total Personnel

## Business Strategy and Structure

K-water will establish a foundation for sustainable growth by creating the new growth engine with an arranged business portfolio by taking into consideration the business environment and strategy goals by each business strategy unit which includes water resources, waterworks, green growth and overseas business.

### ● Adjustment of business portfolio for sustainable growth

Recently, the 4-river restoration and Ara Waterway have been facilitated to discover new business territories, such as, water-friendly value and green logistics with the extension of business scale and types, resulting in realizing the optimal resource distribution by classifying entire businesses to key businesses, growth engine businesses, and new water type businesses for the purpose of securing the foundation for sustainable growth by creating a new growth engine on the basis of a core capability base through a business portfolio adjustment. With the main businesses that generate stable profit as the key businesses, and the future focused businesses with a bright market prospect and equipped with internal capability as the growth engine businesses, the R&D-oriented investment businesses have been classified as the new water type businesses to strengthen the selection and concentration.

### | Creating the Business Portfolio |

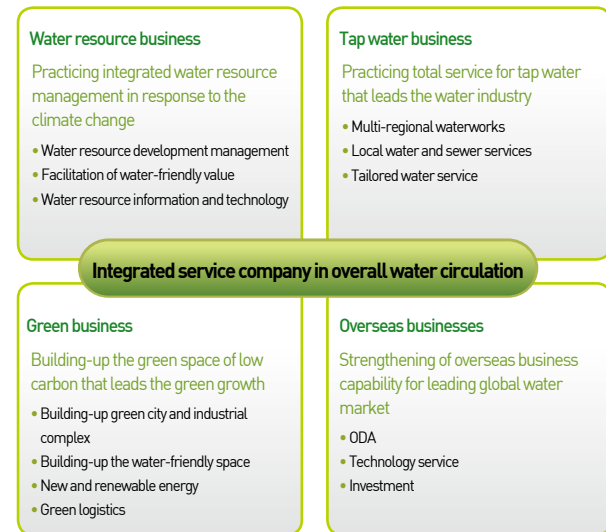


### ● Business Vision & Strategies

K-water established its business vision and has implemented strategies by segmenting its overall business into the water resources business, water supply business and green growth sectors, for the purpose of analyzing business conditions, value chains and business portfolios. The water resources business is focused on "Achieving an Integrated Water Resource Management System to Counter Climate Change." This business sector's activities include, securing sufficient water resources, operating & managing dams scientifically by utilizing IT-based technology, strengthening the management of water quality and quantity, and expanding participation in river related businesses. The Water Supply business sector strives to "Provide a Total waterworks Solution to Lead the Growth in the Water Industry." It is contemplating entering into new water related business areas such as establishing a stable water supply system, expanding the out-contracting of local waterworks businesses, and participating in drainage/industrial water businesses. The Green Growth business sector's aim is to "Create a New Business Model that Merges Water with Greenness." Some of the activities include achieving low carbon green distribution, fostering specialized complexes which utilize valuable water, advancing into foreign water markets overseas, and the development of new & renewable energy development. The projects have been classified based on business priorities as follows: infrastructure business, growth engine business and next generation

business. The green business strives for "building up the low carbon green space that leads green growth," to undertake waterside space amenities, solar energy development, CDM business and others. The overseas business strives for "overseas business capability strengthening for leading the global water market," to undertake the comprehensive development for river and package-type business expansion (construction, technology export and operation management) and others.

### | Corporate-wide Business Structure |



### ● Water Resource Business

A new national water management goal has been presented to respond to the increasing damages from droughts and floods caused by climate changes. In order to respond to climate changes, K-water has undertaken sufficient steps to secure water resources through 4-river restoration business, environment-friendly green dam construction and improvement of existing dam utilities. The 4-river restoration business will be completed by 2012, securing 1.3 billion m<sup>3</sup>/year of water and increasing 920 million m<sup>3</sup> of flood adjusting volume. In addition, with the dimension capability increasing business and IT-based u-Dam safety structuring, the improvement of safety for water resource facilities has been undertaken. In order to secure the stability of dams in times of extreme flooding, the 23-dam dimension capability improvement projects will be completed by 2017, and it plans to secure long-term and mid-term stability and structure scientific dimension response system in response to droughts and floods. As well, K-water is undertaking disaster prevention and management advancement by structuring the disaster prevention and management system with advanced IT technologies for dam rainfall forecasting and weather forecasting system structuring and others. K-water will structure the ICT-based integrated water management system through the integrated management of the

basin unit and water distribution – cost payment system through connecting dam – river – weir and connection of quantity and water quality. In addition, K-water has promoted water-side space amenities by water-friendly value facilitation commercialization, expansion of facilitating environment improving water and securing river area ecology and environment health.

● **Water Supply Business**

In order to realize the total water service that leads the water industry, K-water is committed to accomplishing sales revenue of 2.8 trillion won and 17.24 million population for domestic water supply by 2019 through clean and safe water supply, water and sewer integrated-type business structure as well as high added-value tailored water supply. For this purpose, K-water will supply high quality tap-water by securing a water flux of 19,107,000m<sup>3</sup>/day, a 75% operation rate for multi-regional waterworks, enhancement of 8 aged water purification plants, and the improvement of 300km of worn out pipes by 2019. As well, K-water will respond to the water-sewer integrated water industry development policy of the government and expand the water-sewer integrated business for strengthening the international competitiveness to realize the total water service by undertaking consigned business for 19 regions and 96 local governments by 2019. With the expansion of industrial water and renewable water market participation through securing future core technologies, K-water will take over the future water market. For such purposes, it plans to prepare the tailored water supply base by conforming to the customers needs by undertaking the investment business for 8 cases of industrial water business and 5 units of renewable service facilities by 2019 to lead the tailored water market by jointly undertaking with private enterprises as well as the development of the domestic water industry.

● **Green Business**

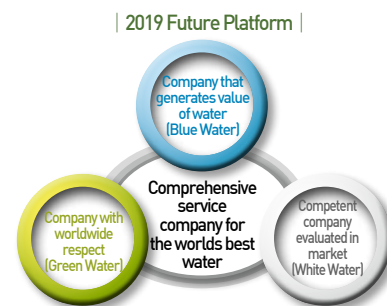
Green Growth has become a new paradigm in economic and social development. K-water has undertaken steps to build up low carbon green spaces that lead to green growth. Water-friendly zones are fully undertaken in the 4-river restoration and Ara Waterway sites and supplies 5.5% of domestic new and renewable energy development by 2019, and generate the marine logistics through the Ara Waterway infra, and fully advance into the watering-friendly value facilitating business, such as, tourism, leisure and others, try to accomplish sales of 1.9 trillion won in 2019. The plan is to undertake the systematic development of water-friendly space

in consideration of futuristic urban development that facilitates the water environment such as, Sihwa MTV around Sihwa Lake and Songsan Green City, IMPROVEMENT of national income, change in leisure patterns, high ageing population and others. In addition, on the basis of 40 years of experience in major hydraulic power operation and management, technology in new and renewable energy development of K-water, it undertakes to supply new and renewable energy of 1,000 GWh along with the greenhouse gas reduction business by 1,000GWh. Through the Gyeongin Ara Waterway business that will be opened in October 2011, the low carbon green logistics will be realized along with the brand waterway where culture, leisure and tourism will be represented in the 8 sceneries of Suhyang.

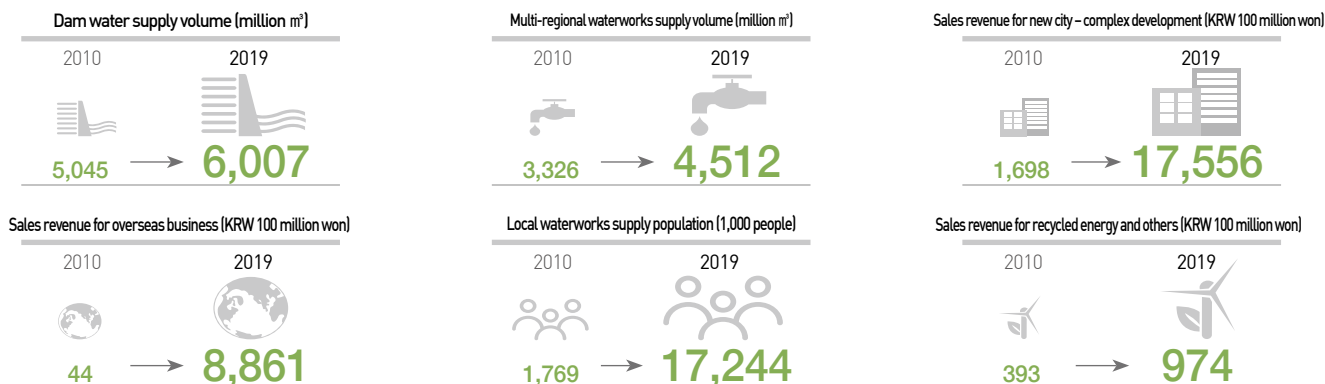
● **Oversea Business**

Following the global water industry structure revision, K-water has made business adjustment considering the new business territory and management condition to undertake the overseas business capability strengthening to strengthen the realization of sustainable growth. K-water has a plan to facilitate emerging countries and advance country-oriented investment businesses from the under-developed country-oriented public development and expand the business territory to the comprehensive development of river and package-type business including water, sewer and hydro-power generation businesses. On the basis of accumulated businesses experience and local networks through ODA and technology service business, K-water discovers and promotes highly profitable investment business (BOT, M&A and others) and is expected to serve 23.7 million people for an overseas service population and 886.1 billion won of sales revenue. For this purpose, it plans to expand the participating market, diversification of business types, and strengthens the risk management around the hub country.

K-water is committed to responding to the low carbon green growth policies through water that has unlimited value and undertake the new growth driven businesses to realize the sustainable development.



| **K-water business objective** |





# Creative Innovation Management

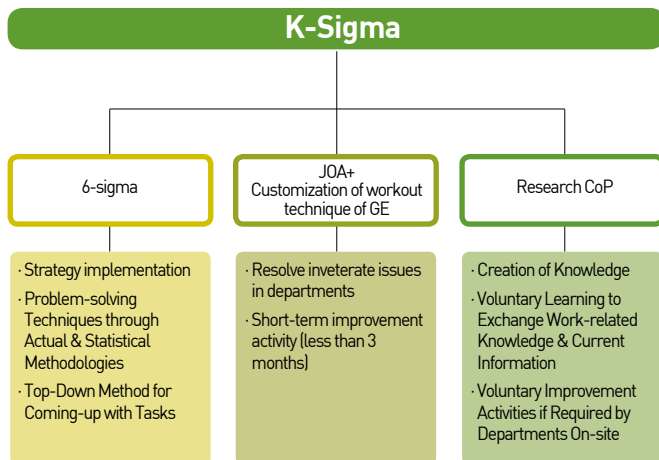
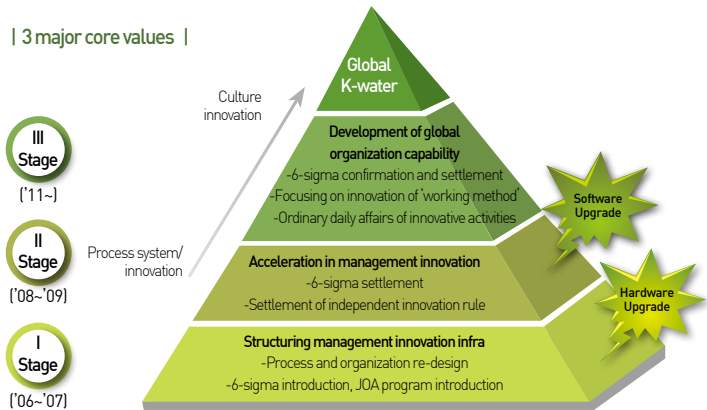
K-water promotes creative innovation practices to achieve its vision despite the fast and ever-changing business environment.

## ● Implementation Direction of K-water's Creative Innovations

Although K-water achieved the highest innovation evaluation level for public-services at level 6 in 2007, it continues to actively promote creative innovations to secure global competitiveness despite the fast and ever-changing global business environment. K-water is doing whatever's possible to embody an innovative-based and active mentality for each employee by systematically operating Creative Innovation Communities of Practice (CoP), promoting knowledge management to provide concrete support to the work being carried-out on-site, and improving practices pertaining to the organizational culture based on the 3 core values, which includes purity, passion and creativity.

## ● K-water's Proprietary Creative Innovation Practice Structure (\*K-sigma)

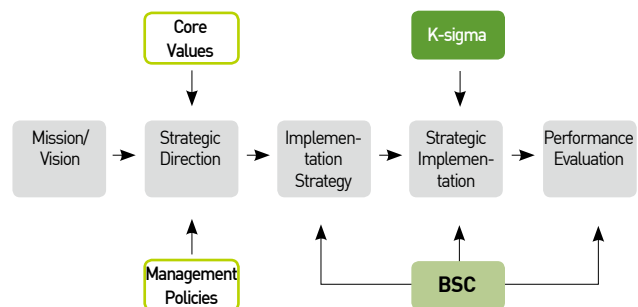
K-water's innovative practice structure is organically linked to the BSC, Creative Implementation CoP and knowledge management. As the BSC is a core performance index required to achieve K-water's strategic objectives, various activities are needed such as the 6 Sigma, JOA(Converted GE Work-out Methodology into K-water's own.), and Creative Implementation CoP of the Research CoP. These diverse creative innovation practices have been re-established as K-sigma, K-water's proprietary CoP implementation brand. Performance results gained through CoP activities under the K-sigma brand consists of knowledge management (KM) which is based on knowledge proposals, and a circulation structure that is shared by employees through organizational cultural activities.



### What is CoP?

CoP (Communities of Practice) is a gathering of employees that generates an outcome by improving the works as a result of discussing the common agenda for certain period and sharing the knowledge to accomplish strategy and realizing the corporate vision.

### | Strategic Structure to Achieving K-water's Vision & Realizing Value |



## ● Case Studies of Creative Innovation Activity Implementations

### ▶ Implementing Leader-oriented Voluntary Innovation Activities

K-water is actively supporting leader-oriented voluntary innovation activities to incorporate creative innovation practices for all employees. Led by on-site department heads, including regional executive directors, required tasks to create customer value are voluntarily selected and implemented. Department heads actively participate in and display support leadership in implementing the selected tasks. The tasks are continuously evaluated in stages to enhance the performance of these tasks. Next, the results of the tasks are presented to each division on an intermediate basis and presented to the entire corporation through the Creative Innovation Festival. Excellent case samples are selected, shared, and dispersed company-wide. Consultants are also sent out to the regional headquarters to provide customized consultant services catering to work and duties on-site. Through these consultant services, special lectures are provided to upgrade their knowledge in advance work methodologies and to enhance work improvement competencies. The training of innovation expert personnel (6 sigma Belt Certified Personnel) is the backbone to continuous creative innovation activities.

### ▶ Enhancing Creative Innovation Minds

Innovation related special lectures such as “Speed Management required for Leader Innovation,” and “Strengthening On-site Oriented Innovation Activities” are provided to enhance employee creativity. Voluntary organizational cultural improvement activities are also held which focus on the 3 core values, which are Purity, Passion and Creativity, and which incorporate the CEO’s management philosophy.

### ▶ Opening Knowledge Network and Volunteer Knowledge-based Activities

K-water is distributing expert knowledge through diverse networks with external water professional firms, cooperative firms and outside customers. Through the Waterpedia portal system that was established in 2007, K-water is sharing its water technology internally, and technological information with the industrial, academic and institutional sector. By opening the dam related “Damquitious” system, K-water provides information regarding dam construction designs and technology in its entirety. In this way, K-water is able to solve any concerns or problems

that users such as customers, corporates, or academia may have on a real-time basis. The policy to embrace customer proposals is operated as part of knowledge management to utilize the diverse and creative ideas provided through diverse sources, such as general customers, cooperative firms, and in management operations. Existing scattered work manuals are arranged and provided on the basis of 111 core work cases, and these manuals structure and operate the Wiki-method management system to complete by the participation of employees. In addition, it is connected to the KMS system to enable the knowledge proposal submittal through blog and network facilitation between individuals and organizations through company Blog, and it adds the reply function for users on knowledge proposals to facilitate knowledge management.

## ● Creating Creative Innovation Performances



Awarded the Asian MAKE Award

Creative innovative performance presentations and the creative innovation magazine, “O! Culture,” are published and distributed enabling everyone to share in the performance of creative innovation activities. Case examples of these activities have also been distributed. Through excellent case example presentations to the Knowledge

Management Society and the Public Innovation Conference, K-water was able to spread its excellent innovation activities outside the corporation. As a result, K-water was the first public-service in Korea to be selected as the “Most Respected Knowledge Management Corporation” by Teleos, a UK institution, resulting in K-water receiving the globally respected and prestigious “Asian MAKE (Most Admired Knowledge Enterprise)” award for three consecutive years.

**5,411** Cases, 2010 Knowledge Proposals



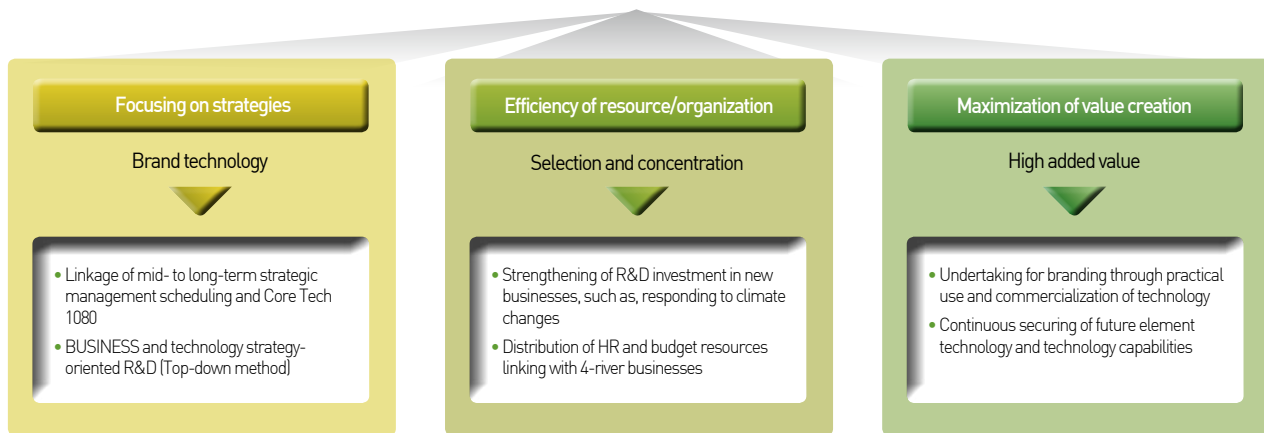
Creative Innovation Festival

## Sustainable R&D Investments

On the basis of strengthening research capabilities and the creation of technology value, we are committed to growing into a “Global Water Management Research Institute that Grows with its Customers.”

### ● K-water R&D Strategy

Securing of high added value and core technology through R&D



K-water established its Technology Innovation Plan (CoreTech 1080) in December of 2008, and plans to achieve technological levels reaching over 90% of advanced nations' levels through investments of KRW 108 billion by 2017. As such, in order to secure the core technologies by 2010 (5 major star brand technologies: ①Water resource climate change adopting technology ②Dam-river connection operation technology ③ Water integrated examination system technology ④High-level practical membrane separation technology ⑤Future-based technology), it concentrated on 56 projects out of the 75 research projects (75%) and invested KRW 8.7 billion out of the R&D budget of KRW 13 billion (67%).

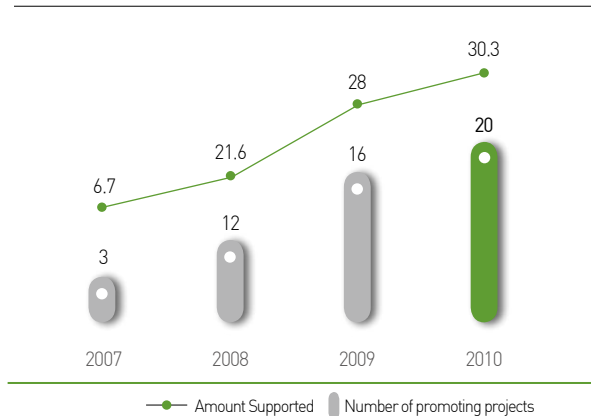
In addition, K-water has a series of processes ranging from research, development and commercialization outside to maximize the creation of high added value and it has continued to carry-out its [Small & Medium Enterprise Support Business] and [Water Industry Core Sector R&D Support Business].

### ● R&D Performance

K-water invests more than 7% of revenue related to waterworks and dam towards R&D, carrying-out 87 projects annually on average. An average of 448 research Treatise(2005~2009) are published annually as a result of projects carried out, while intellectual property rights, including patents, continue to increase. At the end of 2010, the “Algal-bloom removal vessel” was developed and we received recognition for the technology as it won the grand prize for national green technology.

### | Status of open R&D |

(Unit: KRW 100 million won, Case)

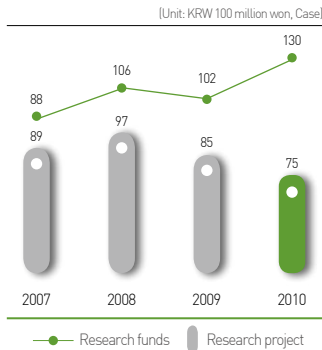


### | Status of open R&D for '10 |

Support project for core fields of water industry	Processing development for high level nano-membrane for hardness removal and others - 7 projects	Korea University and others 1,070 million won
Support project for SME technology innovation	Development task for measurement equipment for portable motor efficiency and other - 5 projects	Hyupsung Hisco Co., Ltd. and others for 205 million won



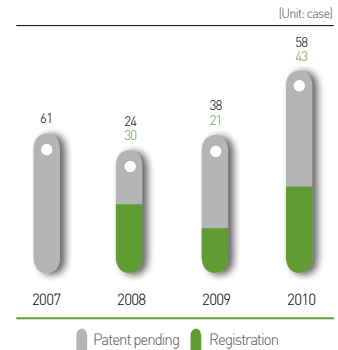
I Research Project & Budget I



I Published Research Treatise I



I Patent Application & Registration Status I



Water Analysis Research Center



The Nation's Largest Flowmeter Calibration System



In Water & Sewage Research and Education Center Treatment Demonstration Plant

● R&D Infrastructure

K-water operates a world-class waterworks and a sewage research & training center which has a technology research & training support institution, an internationally certified control facility in the first domestic water level measurement sector, and a flow control system that has the largest diameter in Korea at 800mm. In addition, it has a specialized institution for facilities safety examination that undertakes on-site surveys and safety examinations on the facilities, such as, repairing facilities, ports, bridges, tunnels and others as well as professional certification institution for quality tests.

The Water Quality Analysis Research Center has advanced into one of the top 4 largest water analysis research centers has been operated (environment measurement equipment, soil, drinking water, and water quality test) for public certification institutions as it is designated as a private institution for viruses and animals for the first time in Korea, and it has established a "500 Criteria Pool Water Quality Analysis" through the new establishment of a harmful substance analysis law to implement the precise water quality test.

● R&D external cooperation

Through the strengthening of networks with global research institutions, K-water seeks to accelerate the global standard and has undertaken international joint researches and technology exchange projects. (Status of overseas MOUs: UNESCO and 24 institutions)





24\_Corporate Governance / 25\_Ethical, Transparent Management

26\_Customer Happy Management / 28\_Mutual Growth with stakeholders / 30\_Communication with stakeholders / 32\_Risk Management

## Water is the Guardian!

To a young tree fatigued from the scorching heat in summer, water is the vital source of life.

Clean water containing sky and nature becomes the mirror to look back on itself.

The powerful flow of a river becomes the fence to protect from dangers.

Profound and blue water that takes care of all and communicates with all and flows through all places to harmonize with all of us into one.

K-water builds up a greater understanding and affection through water that protects us from all possible threats.

## APPROACH

## Corporate Governance

Utilizing expertise, greater participation by non-permanent directors in management is contributing to improvements in corporate governance.

### ● Share holder Structure

In accordance to the Korea Water Resources Corporation Act, K-water's investors are limited to the Korea Development Bank (KDB), central government and local governments. The central government has to invest more than 50% of the total capital. Currently, K-water's shareholders are comprised of the central government (90.9%), KOFC (9.0%) and local governments (0.1%) in 2010.

### ● Composition & Operations of the Board of Directors

The Board of Directors (BoD), the highest decision-making body, deliberates and passes resolutions on K-water's major issues such as business plans, taking into consideration economical, social and environmental factors. The BoD oversees the duties of senior management and provides support to management. The BoD is comprised of 15 directors, 7 permanent and 8 non-permanent directors, and the chairman is served by a senior non-permanent director that contributes to reasonable checks and balances to improve the control structure of public enterprise and executives. The general meetings of the board of directors in 2010 were held for a total of 14 times to deliberate and process 43 agendas, and in addition, through 2 non-permanent director meetings, 6 work bull sessions and 4 special committee meetings, it has undertaken an active role in providing a management proposal by reviewing overall management affairs in-depth for K-water.

### ● Activity Evaluation of the Board of Directors

With respect to the activities of the K-water board of directors, it is under the objective evaluation in diverse fields of management proposals, system operations, attendance rates and others under the management evaluation and internal evaluation each year. In addition, permanent directors are paid on a performance-based salary in accordance with the government evaluation result. The evaluation contents are organized with a quantified outcome and a non-quantified outcome and it evaluates with the inclusion of an outcome and effort.

### ● Management Participation & Expertise Enhancement of Non-permanent Directors

The board of directors of K-water solidifies the subjects for review, resolutions, and expands the scope of reports to strengthen the function for review and resolution on important matters of management in its activities. In addition, the company information network is broadly open to non-permanent directors to provide support for them to acquire the management information of permanent Directors level in real time to expand their participation in management and improve the decision-making capability of non-permanent directors. Furthermore, through the work bull session as small-scale management activities of the board of directors, the agenda for the board of directors are strengthened in

advance, and by immediately providing the required data, it supports them to make correct decisions and management participation. In addition, for enhancing the management capability of non-permanent directors, observation is provided for the water resource facilities, construction sites, and dam and water purification plant operation status to have a comprehensive understanding of on-site management capabilities. By combining the management understanding of non-permanent directors through the foregoing processes and professional knowledge of non-permanent directors, active external management activities by those non-permanent directors on national policy have been undertaken, resulting in significant management outcome by changing the perception of people on national projects and others.

#### | Board of Directors (As of the end of August 2011) |

Directors	Name	Title
Internal Executives (Permanent)	Kim, Kuen Ho	President
	Cho, Jung-hyun	Executive Audit Member
	Kim, Wan Kyu	Senior Executive Vice President
	Choi, Won Sik	Executive Director of Administrative Services Division
	Yum, Kyung Taek	Business Executive Director of Water Resource Division
	Choi, Hong Gyu	Business Executive Director of Water Supply Division
	Park, Gee Hwan	Business Executive Director of Green Business
Internal Executives (Non-Permanent)	Song, Jae Woo	Chairman (Professor, Dept. of Construction and Urban Technology, Hongik Univ.)
	Kim, Kye Hyun	Inha University, Professor of Civil / Environmental /Geoinformatic Engineering Department
	Song, Byeong Dae	Grand National Party, Daejeon Metropolitan City Party Committee Head
	Cho, Hyun yeon	Professor of the Dept of Management at Catholic University
	Yoo, Byung-ro	Professor of the Dept of Environment Engineer at Hanbat University
	Park, Tae Woo	Editorialist of Frontier times
	Kim, Yeong Gwan	Chairman of Asia Exchange Association
Park, Yeong Hgwan	CEO & Lawyer of Vission International Law Firm	

### ● Internal Audit & External Supervision Institution

K-water operates an independent internal Audit & Inspection department to supervise the appropriateness and impartiality of the work carried-out. Through the supervision of the public office disciplines and regular audits, management transparency is improving. The internal Audit & Inspection department's auditor may be called upon to make statements to the BoD. The auditor is also prepared to faithfully answer to any audits by the Board of Audit & Inspection, Parliamentary Inspection, Ministry of Land, Transport and Maritime Affairs and the Prime Minister's Office.



# Ethical / Transparent Management

K-water is a corporation that places great importance on individual and corporate ethics. K-water is gaining the trust & credibility of the stakeholders through global ethical & transparent management.

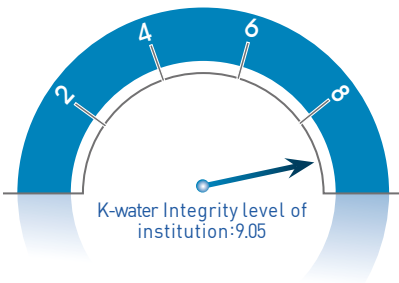
## ● Clean Corporation, Producing Clean Water

Internally, we have to realize a fair organizational culture with the practice of ethical management, and externally, we have to fulfill our corporate social responsibilities to progress into an even a more reliable company for people. (President Kun-Ho Kim, January 2011)”

K-water is aggressively pursuing ethical management as the basic foundation since it provides a strong competitive platform. In 2009, K-water especially focused on re-establishing its core values to help achieve its vision, accepting ethical management as its primary management target, and initiating its target of becoming a global ethical management corporation.

It has taken powerful steps toward corporate enterprise. In addition, it has strengthened its organization exclusively for ethics by introducing the Audit Committee in 2010, and further strengthened its internal regulations, such as establishing a Code of Ethics in research and made the effort in an advanced ethics system by operating the 'Ethical Committee' as the highest policy making organization for ethical management and a "Clean Reporting Center," a place where employees can voluntary return received gifts on its way to showing the result as the selection as the outstanding institution of integrity and public contribution in 2010 by the Anti-corruption & Civil Rights Commission of Korea for its efforts for all officers and employees.

### | 2010 Integrity level of public institutions : High level Institution |



0%,  
Rate of omission for integrated management notification

## ● Achieving Stakeholder-oriented Corporate Ethics

K-water is initiating diverse activities based on its management principles, ethical management organization and systems to enhance trust between itself and its customers, employees & executives, cooperative firms and society in general. To eliminate customer rights infringements and dissatisfaction, various policies have been revised. In another effort to enhance transparency, K-water allows customers to directly participate in the implementation of projects. By providing ethical training focused on actual case studies and operating labor support policies related to the welfare and health of all employees & executives, K-water is pursuing its ethical activities in connection by providing high quality water supply services.

A win-win cooperative relationship is maintained with cooperative firms through a coexistent council to achieve mutual growth. In addition, the monitoring system on all steps of contracts has been established between K-water and the cooperative firms. These measures have been established to ensure a continuous healthy and sustainable partnership. K-water is also



Awarded the Grand Award for Transparent Accounting as the first one in public-service (June 2010)

expanding its worldclass low carbon green growth projects to create social benefits, which is an obligation that is required for public corporations.

Efforts are also being taken to carry-out global standard Corporate Social Responsibilities (CSR) by linking projects with strategic domestic and overseas social contribution activities.



Executive's Clean Ethical Management Practice Pledge (August 2010)



Action Learning of Ethical Practice Project (April 2011)



Entering into Green Partnership with SME (November 2010)

# Customer Happy Management

Realization of an ultra-human service company with trust from customers with its creative CS management.

● **Accomplishing the highest level of customer satisfaction for public enterprises through the strategic CS management system**

For positively responding to internal and external environment changes and increasing the demand of people for high-quality water service, K-water has systematized its customer satisfaction strategy and branded its service. First, in order to secure service differentiation and competitiveness, it has set forth the CS vision in 'K-water Building up Enriched Lives of Customers' and customer value in 'Comfort, security one-step advanced trust' on the basis of enterprise participation and consensus. Following the 3 strategic directions in CS management under the 'High level of the CS system, customer needs management systemization, and service quality strengthening', it has undertaken 9 strategic tasks such as customer-oriented process efficiency and other tasks as well as 42 practical tasks, and by significantly improving the internal / external service processes, K-water has been able to prevent customer dissatisfaction, resulting in enhanced customer loyalty. Simultaneously, amongst SOC public-services, K-water was the first to adopt the 'Service Identity (SI)' to be able to effectively provide special customer satisfaction services to customers, and to highlight how its services differentiate from other SOC public-services. For the foregoing purpose, K-water has remarkably improved its internal and external service process, and by strengthening the advance prevention of customer complaints to enhance customer loyalty. Furthermore, in order to effectively convey customer satisfaction only for K-water and emerge with the differentiation from other competing institutions, such as local governments, and others, it has had its service identity branded for the first time as the SOC public enterprise. The service identity, 'Water-Pro Service,' reflects K-water's strong

intention to provide proactive and professional services to its customers. It is facilitated in the CS standardization and service improvement, such as, front-line employee uniforms, business cards, placards, various CS activities and others. Through these efforts, K-water has acquired the highest rating for four consecutive years in customer satisfaction for public enterprise under the management of the Ministry of Strategy and Finance with the highest score in history (97.1 points), 4.2 points higher than the overall average of public enterprise in 2010, and it was selected as the outstanding institution for information disclosure, as a sign of recognition for the CS management of K-water as the highest in public enterprises.

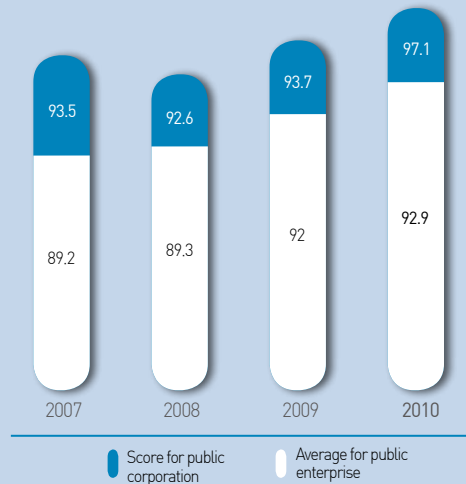
● **VOC (voice of customer)-based management improvement and solution for customer inconvenience**

K-water facilitates diversified outcome monitoring and exchanges with a systematic VOC collection under the all-phase network of diverse stakeholders, VOC analysis by the integrated VOC management system (customer portal), enterprise VOC sharing for market resources and customer satisfaction, a customer center in Happy Call, VOC timely processing rate and others to realize the systematic and systemized VOC management as the original resource for customer satisfaction and management improvement. For solving the problems due to a lack of understanding of people on the 4-river restoration business and conflict thereof, efforts have been made to enhance the understanding of people on the 4-river restoration business and improvement of trust through structuring of local governance, such as 4-River Win-Win Council and others, strengthening opinion for local communities, such as, holding bull sessions and others, operation of various advisory groups and publicity supporters of college students, such as river-side ecology and environment

| Survey result of CS major outcome index and Public Service Satisfaction index |

Major outcome index	2008	2009	2010
Customer satisfaction of public-enterprises	Highest grade (92.6 points)	Highest grade (93.7 points)	Highest grade (97.1 points)
Customer satisfaction of local water service	75.4	75.8	77.8
Satisfaction for happy call	74.2	84.0	91.5
VOC times processing rate	98.8%	99.0%	99.4%

※ **Public Service Satisfaction index** (hosted by the Ministry of Planning and Finance): Implementing grade system from 2007, highest rating (outstanding) - 90 points or higher  
 ※ **Customer satisfaction of local water service** (consigned survey from external institution): 77.8 points of customer satisfaction for 2010 exceeded 6.8 points than the customer satisfaction of water service of 71 points for customer satisfaction  
 ※ **VOC timely processing rate**: Processing rate within the processing period of civil petition (99.4%: from 2,821 cases of civil petition in 2010, 16 cases have exceeded the time)



advisory conferences and others for collecting diverse opinions and successful business undertaking (55 teams and 199 persons), planned report, press report, bull session with reporters and other press publicity campaign efforts.

For the strengthening of the dam, lake and tap-water quality and enhancement of reliability, K-water has undertaken water quality improvements and enhanced people's opinion on reliability by expanding the water quality confirmation system, strengthening the water quality accident responding capability, implementing more stringent water quality standards than the legal standard, expansion of water quality information disclosure, expansion of water purification plant for US Water Association 5-Star (world highest level) (5 places → 13 places), expansion of Water-Tour (field trip for dam and water service facilities and others), undertaking tap-water drinking campaign and others. In addition, in order to improve the reasonable charge system of dam water and multi-regional water system, it has undertaken for exemption or reduction of charges in the environment improving water with the public-benefit functions (50~100%), support of water processing costs for original water and sediment water following water quality, expansion of discount on additionally used volume of multi-regional waterworks and others.

For solving customer inconveniences and their needs in advance by facilitating specialized technology and knowhow, it has facilitated the large-diameter fluid-crossing gate for the pipeline for the first time in Korea to resolve the inconvenience from the water supply cut-off for 740,000 people. Furthermore, it has expanded the before service with strengthening of water supply stability by improving the worn-out pipes (24.9km) and others, developing and free supply of frozen water meter rupture prevention pack

for preventing water meter ruptures caused by freezing in the winter (63,775 units), free implementation of indoor leakage searches (4,582 cases), expansion of water-friendly tests (19,813 cases) and others.

**High level of service quality by establishing service standard and monitoring**







For establishing service standards and improving service quality, the Customer Charter and service performance standard have been fully revised and it has the expansion of 'Water-Pro', the service identity of public corporation with Water-Pro uniforms for all front office employees, appearance standard, photo business card, actual name system card, and ID presentation as an obligatory service.

In addition, K-water has introduced 'service quality index (SQI)' as the advanced service evaluation system that is linked to the CS strategy implementation to minimize the customer dissatisfaction with the intense management of core service a6 and prevention of defects in entire service process and it operates 6 core indices in inspection service satisfaction, dissatisfaction VOC occurrence rate, compliance rate to dispose the civil petition and others to have the comprehensive quality management system by service monitoring method and data measurement method.

It has developed and operates the CS manual for specialization, high service level and customer satisfaction for K-water Customer Center as well as newly established the 'K-water Ombudsman System' to dispose of civil complaints, and it has operated the IT-based advance service system with the operation of mobile (Smartphone) information service, e-mail and SMS notice and other electronic billing notices, address alimi (information) service introduction and others.

**7** Year, Freezing of water price in succession

**99.4** Timely proceeding rate of 2010 VOC

Service quality index (SQI) process	Dispersion of service identity in 'Water-Pro'	Non-outrage/Media Reporting of Frozen Water Meter Rupture Prevention Pack												
<p>Customer satisfaction improvement process by standardized service provision/measurement</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px;">Service manual (capability improvement)</div> <div style="border: 1px solid black; padding: 5px;">SQL (service process evaluation)</div> <div style="border: 1px solid black; padding: 5px;">Customer satisfaction (service result evaluation)</div> </div> <p style="text-align: center;">↑ Related category feedback ↓</p> 	<table border="1"> <tr> <td>Uniform</td> <td>Production of service identity by the employee uniform</td> </tr> <tr> <td>Photo Business card</td> <td></td> </tr> <tr> <td>Real-name card</td> <td></td> </tr> <tr> <td>ID</td> <td>Obligatory presentation of position and ID of person in charge</td> </tr> <tr> <td>Name improvement</td> <td>CS related name change</td> </tr> <tr> <td>Other facilitation</td> <td>Placard, PR material and others</td> </tr> </table>	Uniform	Production of service identity by the employee uniform	Photo Business card		Real-name card		ID	Obligatory presentation of position and ID of person in charge	Name improvement	CS related name change	Other facilitation	Placard, PR material and others	 
Uniform	Production of service identity by the employee uniform													
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Name improvement	CS related name change													
Other facilitation	Placard, PR material and others													

## Mutual Growth with Stakeholders

K-water is implementing sustainable management strategies that enables mutual growth with stakeholders as coexistent partners through continuous and systematic communication with stakeholders.

### ● Communication with stakeholders

K-water has established various outsider management participation systems to enable stakeholders to directly and indirectly participate in management or offer their suggestions. By enabling stakeholders to participate at the decision-making level or during a project's implementation process, potential conflicts that could occur during the implementation of a project implementation can be prevented, while providing transparency and credibility to the stakeholders. In addition, advisory councils or committees have been established to acquire advice on the overall project. Local councils have also been established to smoothly

solve any conflicts that have occurred during the implementation processes of projects. An advisory council or committee is comprised of professionals from NGOs, academia, media, etc., depending on the requirements needed for a specific area. As for local councils, they are mostly comprised of professionals, civil servants and local citizens, and depending on the local issue, it enables them to have greater access to management. K-water works closely with related government institutions such as the Ministry of Land, Transport & Maritime Affairs and the Ministry of Environment on issues such as establishing and implementing policies related to water resources.

### | Communication channel for each stakeholder group |





**Stakeholder Management Participation**

K-water listens to suggestions from diverse stakeholders. Various communication channels have been established for customers, NGOs, local communities, government, cooperative firms, and employees &

executives to collect suggestions regarding major issues of concern, and to actively reflect these suggestions in management. The VOC system can be found on K-water's homepage and anyone can participate. K-water is trying to make sure that everyone's voices are heard.



**Focus**

**With the local community: Commendation of the Minister of Public Administration and Security**  
 K-water Water Love Volunteers, 'Jeonbuk Sarangji', has implemented 'Agriculture Technology Service Activities with Public Institution Coalition' through the coalition of public institutions and networks since 2009. K-water, KESCO, and KGS are united to enter into the agreement for social contribution activities and commenced volunteer activities by connecting with the main services of each applicable institution. By providing professional comprehensive service, K-water has been awarded with the commendation of the Minister of Public Administration and Security in December 2010 in recognition of its contribution to local communities and improvement in local resident satisfaction.

**K-water**

## Communication for stakeholders

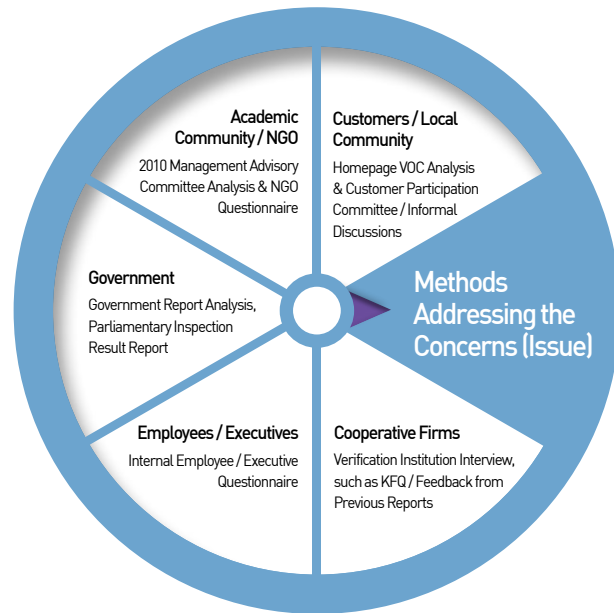
Through various communication channels with the stakeholders, K-water is continuously communicating with them to discuss major issues, and to actively reflect these issues in management policies and initiatives.

### ● Materiality of Communication with stakeholders

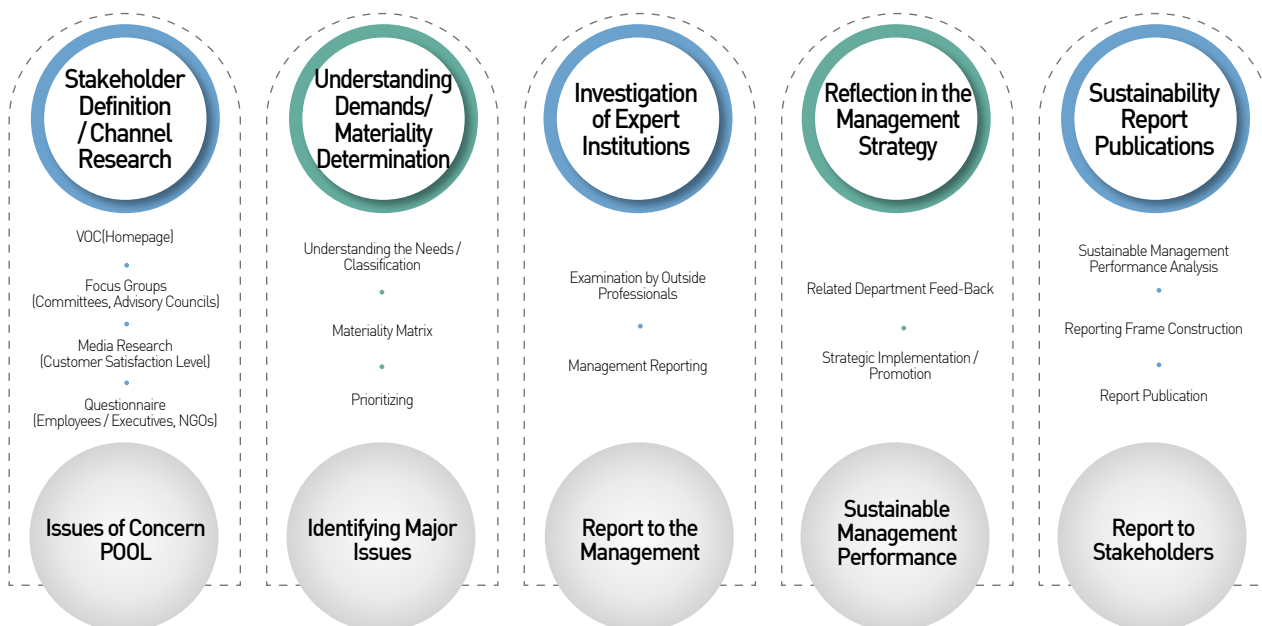
Projects initiated by K-water both directly and indirectly affect the various stakeholders. At the same time, the stakeholders significantly influence K-water's corporate policies. To actively conform to the new environment, corporations need to further their communication with stakeholders. Communication with stakeholders is the corporation's best way to search for means to coexist with stakeholders. It is important in that by pre-emptively identifying risk factors and taking counter measures they will contribute to the sustainability of corporations.

### ● Communication with Stakeholders' Framework

Communication with stakeholders is the beginning and the end in understanding the stakeholders. K-water has classified the stakeholders that directly affect its business activities into customers & local society, government that affects major policy directions, employees & executives that are at the center of innovation and growth, and cooperative firms. Communication of these diverse interested parties and K-water is the most fundamental way for all parties to advance through growth.



### | K-water's Materiality Evaluation Process |



### ● Implementing K-water's Materiality Test<sup>1)</sup>

In the GRI (Global Reporting Initiative) guideline that provides the global guideline of the sustainable management report it recommends to place top priority to report the desirable information of interested parties. In other words, it requires you to find out, analyze and respond to the interests and requirements of interested parties, and include the contents thereof in the report.

K-water has established and maintains diverse communication channels which have enabled the company to collect stakeholder suggestions and opinions. To enable stakeholders to directly and indirectly participate in management or provide suggestions, K-water has established and operates diverse communication channels which include the VOC, where stakeholders can input their suggestions, customer participation committees & informal customer meetings, sustainable management advisory councils, government personnel dispatches, and surveys. Stakeholders' demands that have been collected through the various communication channels are first categorized before prioritizing them through the materiality matrix. Once prioritized, the materiality is evaluated. The matrix evaluation is initiated through a two stage process. The first stage is evaluating internal and external interests. The second stage evaluation takes into consideration the impacts on businesses and management competencies. To identify materiality issues for K-water's sustainable management, the following diagram outlines the major interests of stakeholders. These issues were

received by K-water's management strategy departments and then steps were implemented. The performance results of implementing these issues are disclosed to the stakeholders through the sustainability report.

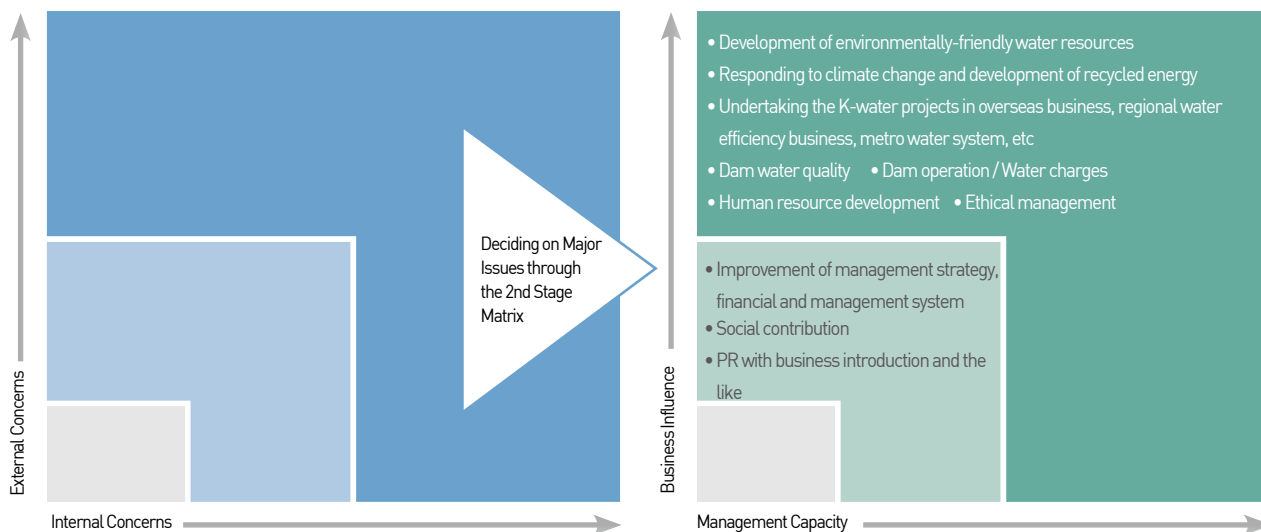
### ● K-water's sustainable management

To identify materiality issues for K-water's sustainable management, the following diagram outlines the major interests of stakeholders. These issues were received by K-water's management strategy departments and then steps were implemented. The performance results of implementing these issues are disclosed to the stakeholders through the sustainability report.

K-water continues to place significant effort in communicating with stakeholders such as customers, local communities, academia, NGOs, government, employees & executives, and cooperative firms. K-water will continue to establish a growth platform by identifying stakeholder demands quickly and by enhancing both K-water's and stakeholders' values through cooperation.

1) **Materiality Test** This is the method to select the priority issues by finding out important information for interested parties and formulates the high interest and high risk for interested parties. Material issues purport to structure the contents of a sustainability management report on the basis of the selected issues.

### | Main Issues of Sustainable Management |



※ Evaluation of 1st phase interest level: K-water has implemented a questionnaire for civil organizations, officers and employees for confirming the key issues through communication with various inside and outside interested parties.

- Very High Materiality: Detailed Implementation Contents & Performance Reporting
- High Materiality: Simply Record
- Low Materiality: Don't Report

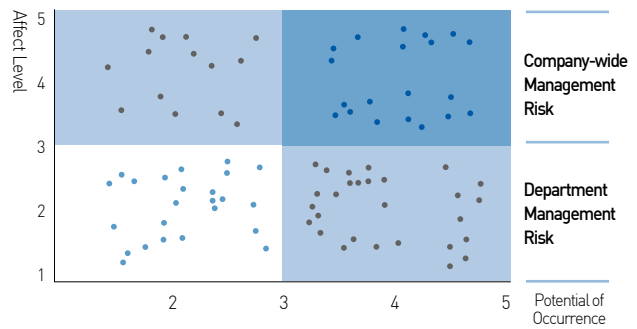
# Risk Management

Enterprise Risk Management (ERM) forecasts potential risks (financial, non-financial) as a result of management on a company-wide basis, and is doing everything possible to achieve its management objectives and enhance corporate values by managing it efficiently.

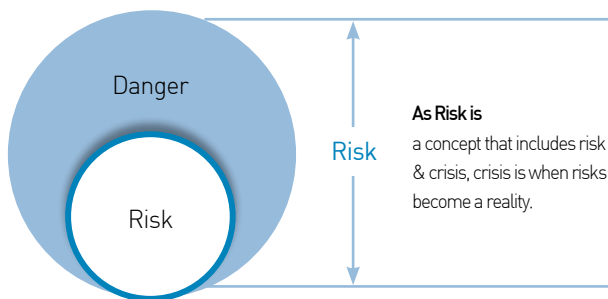
## ● Risk Management Structure

K-water's enterprise risk management can be segmented into pre- and post-risk management, while risks are managed in 4 areas which include management, conflicts, disasters and PR. Risk management is a process of preventive measures to make sure risks don't develop into real risks. The measures include managing counter-measures and continuously monitoring department risk indices. On the other hand, risk management is a post-management process of case risks that developed into real risks. In the case of risk situations, recovery steps are to be taken, which includes deciding on the level of warning and setting up an emergency action headquarters based on the Counter-measure manual by risk type. Risks are evaluated and segmented into a company-wide management (core, importance) risk or department management risk based on the frequency and impact level to K-water's management activities. The focus is on the pre-management of risks.

## | Risk Segmentation |



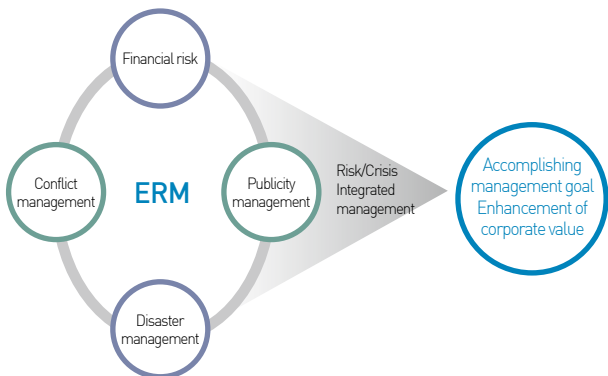
## | Risk Concept Outline |



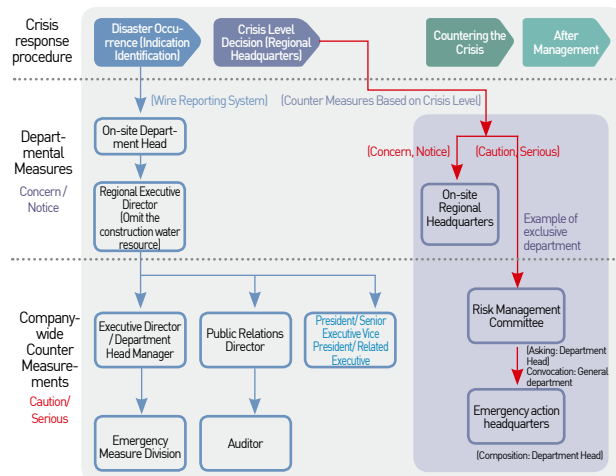
## ● Risk Management Structure

K-water has established risk expansion prevention procedures by incorporating public-service risk management principles into its risk management. As a result, 27 counter-measure working manuals for risk were published and cover the 4 risk areas (management, conflicts, disasters, PR) making it possible for employees to easily utilize the manuals on-site. Headed by the Senior Executive Vice President, the VP takes on the role of the Chief Risk Officer (CRO), and heads the Risk Management Committee which oversees the overall risk management of K-water. Establishing risk management strategies are the Business Planning & Coordinating Department's responsibility, while separate departments are designated to manage specific risk situations depending on the type of risk in order to effectively initiate counter measures.

## | Risk Management of a Company-wide Basis |



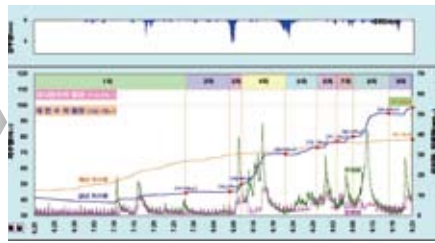
## | K-water's Crisis Management System |







Thorough advance preparation



Scientific flood control



Simultaneous accomplishment of zero flood damage and securing the largest reserve volume in history

● **With the operation of a high-tech water management system, we were able to accomplish both zero flood damage and securing the largest water reserve volume ever in history**

With the full-scale implementation of the project to revitalize 4 major rivers in 2010, there is a great increase in elements for flood control in dredging rivers, reservoir construction and others, and it was a year with significant challenges in water management compared to any other time with dry monsoon season followed by 7 consecutively intense rainfalls after August. K-water is in charge of the operation for some 30 nationwide multi-purpose dams and water dams, and in response to the changes in water management conditions, K-water has made the full improvement of water management system in climate and flood analysis and others, and it provides the one-step faster forecasting information to residents in lower dam basins and work sites on the basis of the foregoing to be prepared for floods.

In addition, the agency has established an organic flood response system through a total of 6 joint drills involving relevant institutions, work sites on rivers and others. In order to make a prompt response to sudden flood situations, such as, flash flood and others, it has maintained a 24-hour full-time water monitoring system all year long. During the flood period, it has implemented an advance reserve discharge flow in consideration for rainfall forecasting and others to minimize the water discharge scale of the dams to contribute in minimizing the flood damages in the basin areas.

Thanks to such a thorough advance preparation and effort, there was no flood damage in rivers where dams are located in 2010, and the water reserve volume at the end of the flood period has secured the largest ever at 9.8 billionm<sup>3</sup>. It is 2.0 billionm<sup>3</sup> more than previous years and the additional reserve water will be able to stably supply water during the dry season and maximize the water use by facilitating in water quality improvement and others.

● **Structuring crisis response system in preparation for major national disasters, such as, earthquakes and others**

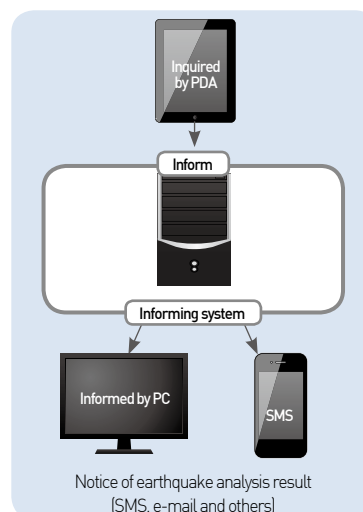
The importance of responsive manual realization has been growing to respond to natural disasters that will influence the entire country and minimize secondary damages beyond the scope of local disaster response. For this purpose, training to defect the supplementary points and minimizing the disaster response damage through actual on-site response training is implemented each year. In particular, the recognition that Korea is no longer a safe area from the earthquake damage has expanded so that the effort has been made to structure the responsive system to minimize the inconvenience on actual living for citizens, such as the collapse of dam structures, stoppage in water purification facilities and others. With such efforts, K-water has been selected as the most outstanding institution in the '2011 Central Administrative and Public Institution Disaster Management Evaluation' as managed by the National Emergency Management Agency in 2011.



Earthquake occurrence



Earthquake detection (seismometer)



Recovery from earthquake damage

36\_Low Carbon New Growth Green Business / 37\_Integrated Water Management of ICT-based / 38-Successful Operations of Local Waterworks / 40\_Integrated Management of Waterworks Facilities / 41\_Water Friendly Green City & High Tech Green Complex / 42\_Global K-water / 44\_Efficient Industrial Water Operation and Customized Water Supply Facility Construction / 45\_K-water Technology Development

## Water is a great skill.

Towards the world with the light of green hope  
the 21st century is the era of water.

Water is the key force for growth and industry and the key to  
sustain the future of mankind.

The global best level of water related technology,  
the power house of green water free from climate changes,  
dream of generating national wealth through advancement into  
a global water market.

K-water is found right in the middle of the dream.

**CHALLENGES**  
**GREEN Economy**



## Low Carbon New Growth Green Business

As Korea's Green Hub, K-water is leading the low carbon green growth by developing new & renewable energy to counter climate change, constructing the Gyeong-in Ara Waterway Project 4-River Restoration Project.

### ● Operating & Developing New Renewable Energy

K-water has aggressively taken measures to overcome climate change, a global crisis, by utilizing the government's low carbon green growth plan as a new platform for growth to actively develop new renewable energy. As of 2010, K-water operates a 1,019MW hydropower plant which supplies 63% of the entire domestic hydropower plant capacity (1,625MW). By the end of 2010, K-water will initiate the largest tidal-powered electric plant in the world (254 MW). K-water is also in the process of constructing small-scale hydropower plants with a total capacity of 53MW, including the Ankye Dam, Hoengseong Dam and the 4-River 16 Weirs. In 2010, a total of 42 places used hydro-power, solar energy, wind power and others to supply 1,938GWh of clean energy, and because of this, there was savings effect of approximately 1.04 million tons of CO<sub>2</sub>.

K-water also concluded the 2nd Renewable Portfolio Agreement with the government to invest KRW 371.7 billion won for 3 years between 2009 and 2011 in new renewable 320MW energy facilities, which include small scale hydropower, wind power and solar power facilities. In 2010 alone, K-water invested approximately KRW 150.6 billion won in new renewable energy (small-scale hydropower, wind power and solar power facilities) with a total capacity of 4,740kW. In particular, by developing a temperature differential cooling and heating system that facilitated the water in the Seoul Metropolitan region to Jamsil Lotte World 2 which is currently in construction, the new and renewable energy field is actively discovered by facilitating water. Efforts are being taken to aggressively reduce green house gases by improving the efficiency of dams' and waterworks' facilities which include improvements in waterworks pump efficiencies, and increasing power generation facilities by modernizing worn out hydropower plants.



### ● Clean Development Mechanism (CDM) Projects & the Selling of Carbon Credit Points

K-water is aggressively countering climate change by reducing the effects of green house gases by developing new renewable energy as part of the CDM project. As the first government-invested corporation to implement a CDM project and in May of 2005, K-water registered a total of 6 projects including small-scale Hydropower CDM businesses of Seongduk and Boohang, the most by one company in Korea, in the United Nations Framework Convention on Climate Change (UNFCCC) as of December 2010. Recently, K-water initiated a CDM project to register small-scale Hydropower CDM businesses of Angye and Hoengseong and waterworks facilities' energy efficiency improvement projects in the UNFCCC.

For the first time in Korea for unilateral CDM business in September 2008, K-water has sold the CDM business discharge rights (6,782 CERs) to ABN-AMRO Bank of the Netherlands on reduction of greenhouse gas for the small hydropower I business in 2007 to realize profits, and in 2009 ~ 2010, it sold carbon discharge rights (2009: 8,608 CERs and 2010: 8,080 CERs) to Korea Carbon Financing Co., Ltd. consecutively to accumulate the knowledge and experience in relation to the transaction of discharge rights in Korea.

**1,329** MW, Operating & Developing New Renewable Energy.

**23,470** CERs, Accumulating sales of carbon discharge right.

#### I New Renewable Energy Development & Operations Status (April 2011) I

Category	Operations & Development Status	Remarks
Hydro-power	Large-Scale Hydropower	10 Dams, Including Soyang River Dam which is Operational Facility Capacity 1,000.6MW
	Small-Scale Hydropower	23 Small-Scale Hydropower Plants Included Andong Small-Scale Hydropower are in Operation / 21 Small-Scale Hydropower Plant linked 4 Major River or Hoengseong Dam are in Construction Facility Capacity 71.0MW

#### I CDM Registration Status (April 2011) I

Project Name	Target Project	UN Registration Date	Annual Generation Quantity (MWh/y)	CO <sub>2</sub> Reduction Amount (mt/y)
Sihwa Tidal Power	Sihwa Tidal Power	Jun. 2006	507,629	315,440
Small-Scale Hydropower 1	Andong Dam, Jang Heung Dame, Seongnam 1	Oct. 2006	15,473	9,689
Small-Scale Hydropower 2	Daechung, Jooam, Dalbang, Seongnam 2	Feb. 2007	13,944	8,664
Sihwa Wind Power	Sihwa Wind Powe	Nov. 2007	6,293	4,013
Small-Scale Hydropower 3	Gosan, Pangyo	Nov. 2009	5,557	2,987
Small-Scale Hydropower 4	Boohang, Seonduk	Oct. 2010	4,963	2,759
Total			553,859	343,552

※ CO<sub>2</sub> Conversion Factor: Sihwa Tidal Power 0.6214ton/MWh, Small-Scale Hydropower 0.6262ton/MWh, Wind Power 0.6378ton/MWh



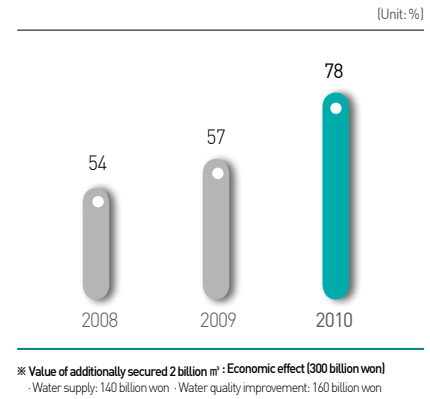
# ICT-based integrated water management

By realizing high-tech ICT-based scientific integrated water management, K-water is building up strong green water powerhouse free from the climate changes.

## ● Structuring intelligence-type water management system

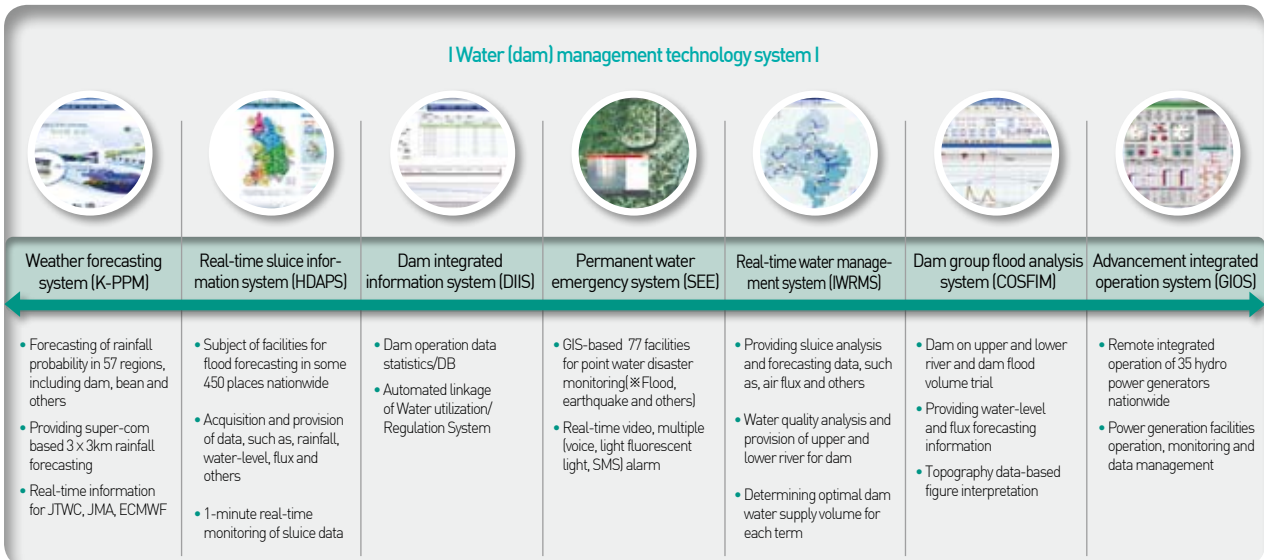
For efficient management of water resources in prevention of water related disasters, stable water supply and others, a scientific water management system is considered as critical. Water has a circulation system starting from rain to flow and eventually evaporates. According to such a water circulation system, it requires a management system for climate, water control and sluice data and a water management system that may connect them for facilitation, which is the key for successful water management. K-water is focusing on realizing a scientific integrated water management by facilitating and connecting 7 ICT-based water management systems in a weather forecasting system (K-PPM), real time sluice information system (HDAPS), flood analysis system (COSFIM) and others. K-water has committed its best effort not to waste any drop of water by continuously improving the system to secure the analysis and forecasting capability in changes of river topography for 4-river restoration project and by installing new facilities. With such an outcome for scientific water management, K-water has realized non-damage flood management on the lower basin area of the dams in 2010 as well as securing the most reservoir volume in the history of dam operation (2 billionm<sup>3</sup> compared to previous year) to generate approximately 300 billion won of economic value.

I Reserve water rate at the end of the flood season I



## ● Preparation of basin unit integrated water management system

Following the recent climate change and others, the frequency and the size of floods and droughts are increasing, and for the resolution policy thereof, the integrated water management of a global basin unit has been presented as a new alternative. The integrated water management of the basin has been managed under the integrated point of view into the water volume, water quality and river environment ecology as an attempt to solve the issues within the basin and K-water has undertaken without the preparation for integration and management for the basin unit for water quality and water quality by linking dams, dikes and rivers after the 4-river restoration project. In 2010, it has newly established the Water Resources Operation Center for the 4-river restoration of Han-gang, Nakdong-gang, Geum-gang and Youngsan-gang to have the advance-type water management organization base to structure and operate the local governance in the basin unit as well as a sluice and basin survey, facilities and environment management.



## Successful Operations of Local waterworks

Utilizing the best management techniques & technological capabilities, K-water is contributing to enhancing the competitiveness of the domestic waterworks industry by improving customer satisfaction and water quality through advanced local waterworks.

### ● Local Waterworks Efficiency Enhancement Project

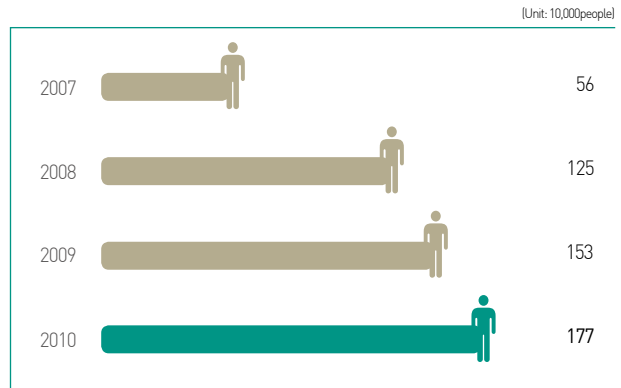
The operation of domestic waterworks is divided into the multi-regional waterworks (K-water) and local waterworks (164 local governments). The lack of confidence in water (rust water, leakage, lack of services) by the public mostly stems from services provided by the local waterworks. Most of the local waterworks are small in size, lack the manpower and technology, and are financially weak, making it difficult to invest in facility improvements. This causes a vicious cycle of low quality and poor service.

Utilizing the experience and expertise gained from operating multi-regional waterworks, K-water is taking measures to enhance the efficiency of the domestic local waterworks business through consignment management of the local waterworks. By integrating the operations of multi-regional and local waterworks, water resource utilization can be maximized, while redundant and excessive investments can be prevented.

### ● Project Implementation Status

The opening of the Nonsan Water Supply Service Center was in April of 2004, as of May 2011 K-water has taken charge over all operations including water supply and management of 18 local waterworks from self governing bodies. Some local waterworks are still in the process of transferring control over to K-water. The local governments that have transferred or that are in the process of transferring operations to K-water are Nonsan, Jeongup, Yecheon, Seosan, Chonan (Industrial), Goryong, Geumsan, Dongducheon, Keojae, Yangju, Naju, Danyang, Paju, Hampyeong, Gwangju, Gosung and Tongyong. In the next 20 to 30 years, K-water will invest a total of 825.1 billion won in the 18 local waterworks, including the Nonsan waterworks which is currently under operations. The investment will help replace worn out pipes, establish IT-based integrated operating systems,

### I Expansion of Local Waterworks Service Population (Accumulated) I

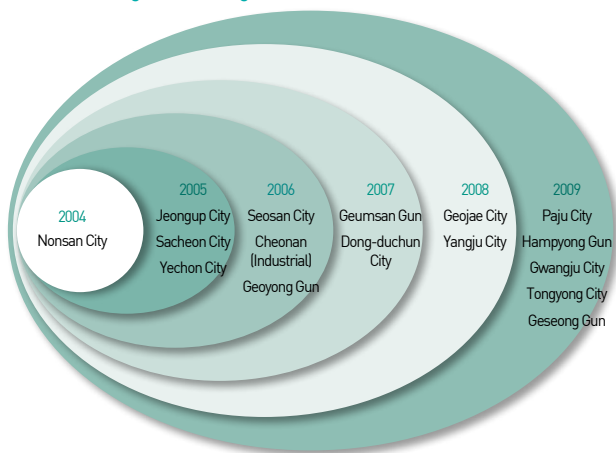


and enable scientific pipe network management. This will increase water revenue and reduce costs, helping maximize management efficiencies.

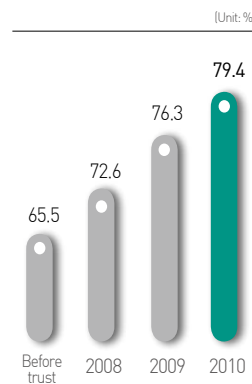
### ● Local Waterworks Operational Performance

Looking into the major outcome on the regional waterworks business for 15 local governments (Nonsan, Jeongeup, Sacheon, Yecheon, Seosan, Goryeong, Geumsan, Dongducheon, Geoje, Yangju, Naju, Danyang, Hampyeong, Paju and Gwangju) in operation for one year or longer from 2010, K-water has implemented for reasonable facilities and operation improvement through scientific examination for reducing the leakage and relieving water quality issues. And the company undertakes the systematic and strategic water loss by using a mid-term and long-term plan by replacing approximately 31,000 cases of water leakage recovery work, 694km of worn-out water pipelines and approximately 100,000 units of water meters to have the significant

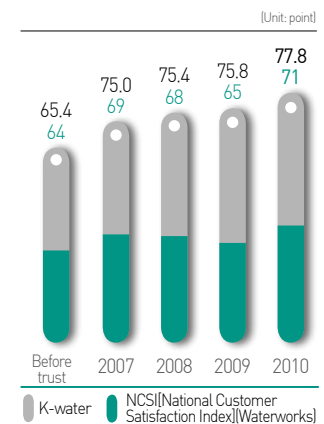
### I Status of Consignment Management on Local Waterworks I



### I Improved Revenue Water Rate I



### I Enhanced Customer Satisfaction I



increase of average water loss rate from and 65.5% to 79.4% by combining 12 existing regional waterworks and 3.1% new units in 2010 comparing in 2009 to save the production cost applicable for 2.4 billion won for each year.

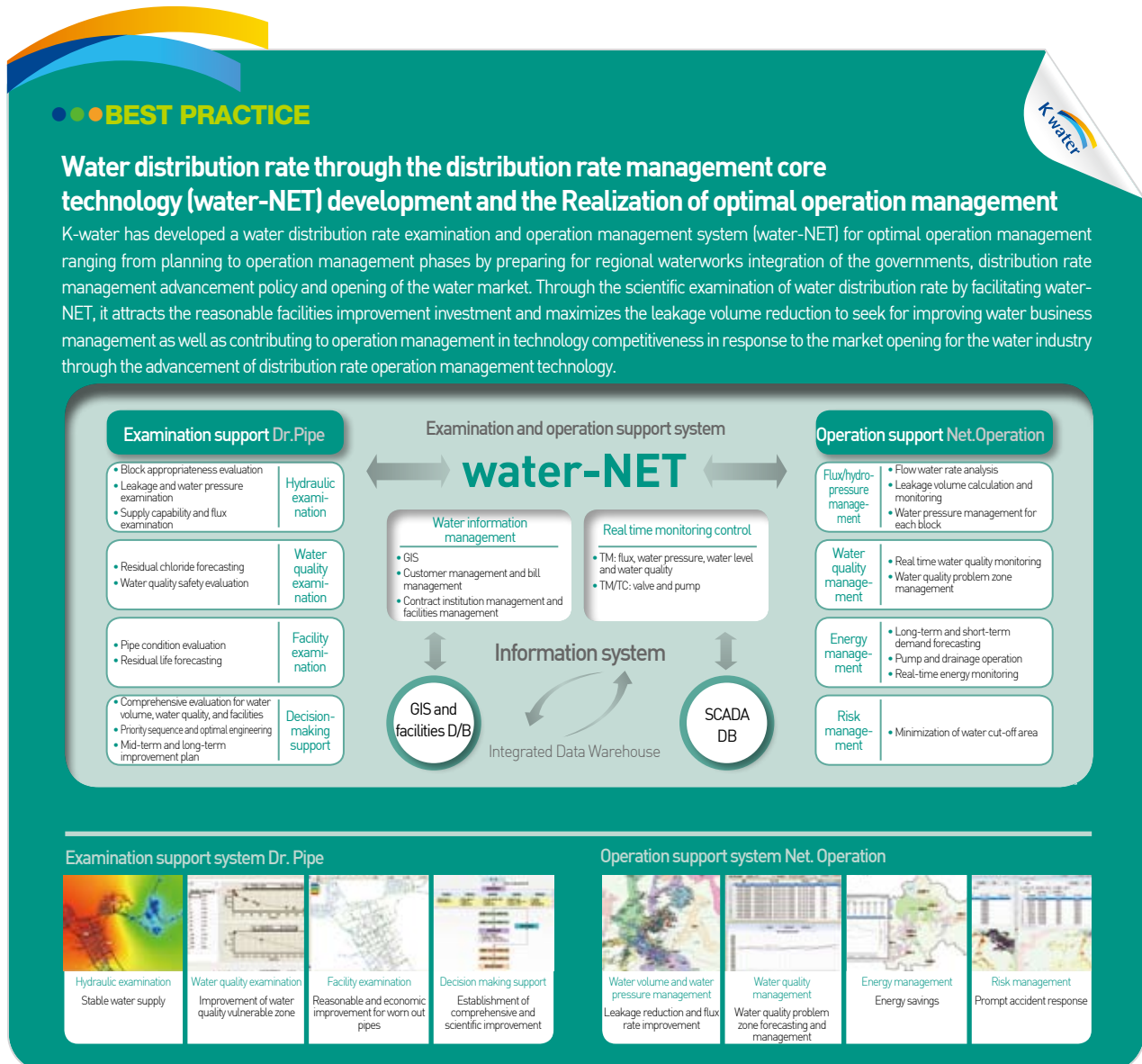
In addition, K-water provides differentiated services, such as, leakage recovery exclusive team, 24-hour call center operation, free internal leakage search, tap-water quality confirmation system introduction and others and it does its best to maintain the quality improvement to improve the customer satisfaction level for applicable residents from 75.8 points in 2009 to 77.8 points in 2010 for expanding water service and qualitative improvement.

In particular, for relieving "vague instability on tap-water" which is the greatest reason not drinking the tap-water", diverse customer recognition improvement activities are undertaken, including, "tap-water drinking apartment", "operation of tap-water quality confirmation system" and others, and in particular, it has accomplished a 70% tap-water drinking rate

in drinking apartment (2 complexes and 1,400 households) of the Nonsan and Jeongeup areas as pilot introduction in 2010.

● **Future Plans**

K-water will enhance local waterworks efficiencies through the continuous expansion of its local waterworks projects, while improving competitiveness of the domestic waterworks industry in preparation for the opening of the water market. K-water will also provide general water management services through the integrated operations management of local waterworks, and waterworks & sewage treatment integrated management linked to the sewage treatment project that K-water is currently carrying-out. Through the accumulated technology in the domestic waterworks & sewage treatment sector, K-water will establish a platform to expand into the overseas market.



# Integrated Operations of Waterworks Facilities

K-water is establishing the world's best waterworks integrated system to enable the efficient usage of water resources, to alleviate imbalances in the regional water supplies, and to secure a stable supply of water through usage integration.

## ● Status of the Integrated Operations of Waterworks Facilities

Automatic operations of an entire waterworks facility processes, including the water intake plant, pumping plant and water purification plant, K-water has been made possible by establishing the waterworks integrated operations system. By operating an entire waterworks facility from the regional integrated operations center, and by remotely monitoring and controlling the water production and supply process 24 hours a day, facilities are not only efficiently operated and managed, but it also enables K-water to secure a leading role in water management technology. In addition, by integrating the operations of 4 sectors from 2011, K-water was able to achieve personnel reduction and technological competitiveness improvements. As a result, K-water was able to realize KRW 39.5 billion won tangible / intangible savings and made the operational foundation of metropolitans-locals linkage and strengthening waterworks facility maintenance by promoting the local operational center. At the same time, with the establishment of the world's largest operations center, integrating 23 metropolitan waterworks, K-water has created a base from where it can leap forward and be recognized as one of the top general water service corporations in the world.



World's Largest Metropolitan Integrated Operations Center

## ● IT Based Hi-tech Waterworks Facility Integrated Operations System

K-water divided its operations into 7 sectors centered-around the regional headquarters across the country to optimize water resources. To enable the integrated operations of the waterworks facilities in each sector, K-water is establishing an IT & automation technology-based waterworks integrated operations system. In addition to the current establishment of integrated operations for 4 sectors that includes the Seoul Metropolitan, Chungcheong, Jeonbuk and Jeonnam and South Cholla sectors, once the operational integration of the remaining 3 sectors, Gangwon, Gyeongbuk and Gyeongnam was successfully completed in 2010, K-water will have integrated the operations of the entire multi-regional waterworks by sector.

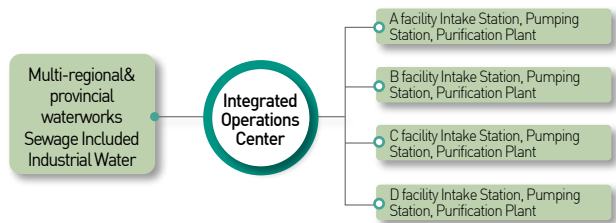
Once completed, K-water is expected to be the world's first to achieve a multi-regional integration operational system on a national level.

## ● Future Plans

K-water is currently in the process of linking and integrating the operations of the multi-regional waterworks with the continuously expanding local waterworks. Once the establishment of the waterworks integration operational system by sectors is complete, K-water will have established upgraded plans for changes to the water operations environment and will reflect them in future plans. Through the realization of a highly advanced waterworks integrated operational system, K-water will do its best to constantly provide a stable and clean water supply to the public.

### Customer Value Enhancement through the Establishment of the Integrated Operations of Waterworks Services Utilizing IT Technology

Integrated Operations by Sector (Multi-regional + Provincial Waterworks)



Multi-regional Waterworks	Local Waterworks
<ul style="list-style-type: none"> <li>Expedient Realization of an Integrated Water Supply System by Sector</li> <li>Improvement of Operational Platform &amp; Upgrade of Water Treatment</li> </ul>	<ul style="list-style-type: none"> <li>Integrated Operations between Multi-regional &amp; provincial, Professional Personnel</li> <li>Balance between Business Expansion &amp; Financial Stability</li> </ul>
<p><b>Sewage</b></p> <ul style="list-style-type: none"> <li>Waterworks &amp; Sewage Treatment Integrated Business Development</li> <li>Joint Business Implementation with Private Corporations</li> </ul>	<p><b>Industrial Water &amp; Desalination Projects</b></p> <ul style="list-style-type: none"> <li>Expansion into the Highly Valued Water Supply Market</li> <li>Expansion into the Medium to Large Scale Desalination Project Business</li> </ul>

- ~2009 ■ 2010
- Established in the Jeonbuk Area (2005)
- Established in the Chungcheong Area, Metropolitan Area (2006)
- Established in the Jeonnam Area (2007)
- Completed the Establishment area of Gangwon, Gyeongbuk, Gyeongnam, Areas (2010)
- Opened intergrated operation in all areas (2011)

**7** Areas,  
Completed all areas of K-water waterworks integrated establishment





## Water Friendly Green City & High Tech Green Complex

K-water creates futuristic integrated cities and high tech national industrial complexes leading the national green growth initiative.

### ● High Tech Green Technology Mecca, Sihwa MTV

To utilize the polder that was formed as a result of the construction of the Sihwa embankment in an environmentally-friendly manner, the development of the Sihwa MTV (Multi-Techno Valley) located in the polder area, North of Sihwa Lake, and Songsan Green City located in the polder area South of the Sihwa Lake are being pursued. The Sihwa MTV, which is slated to be completed by 2016 will be a total break from existing industrial complexes which are comprised of plants focused on manufacturing. Rather, the Sihwa MTV will be a futuristic high tech integrated industrial complex (9.26km<sup>2</sup>) with diverse functions. The complex will have high tech knowledge functions that include a futuristic technology intensive industry, knowledge-based industrial functions such as the venture capital industry, commercial work functions such as financial and business, support functions such as research & welfare, and ecological environment & environmental education functions. The Sihwa MTV development project will create approximately 70,000 jobs and will have an effect of creating approximately KRW 9 trillion from production. This is expected to play a substantial role.

### ● Environmentally-friendly future city, Songsan Green City

Songsan Green City is planned to establish the business undertaking direction through the operation of private-government council in 『Sihwa District Sustainable Development Council』 and urban planning management professional (MP) group undertaken with the goal of using the efficient use of the southern reclaimed area of Sihwa Lake. And, it is undertaken with the project costs of 9 trillion 405 billion won at the site of 55.82km<sup>2</sup> (16.88 million pyeong) to build the integrated city with the size of 150,000 people (60,000 households) harmonizing in a natural environment and tourism, leisure and residence with the goal of completion by 2022. And, by structuring the ecology network in the entire city, it realizes the environmentally-friendly future city where nature and humans co-exist. The entire business district is specialized in 5 blocks for marine tourism and a leisure complex, city centered, automobile theme park, dinosaur fossil site, and ecology residence complex with the metro transportation improvement

measures in the size of 1 trillion 400 billion won. And the foregoing is connected to corporate investment and industrial facilitation to cause the employee effect of 173,000 employees, production of 14 trillion 900 billion won, income of 600 billion won, added value for 6 trillion 700 billion won for a total of 22 trillion 200 billion won of economic dispersion effect.

K-water expects to revise the area into a pleasant integrated living space from the representative industrial region of the capital area, and furthermore, it will undertake the critical role to facilitate the Northeast Asian economy.

### ● Catalyst to National Economic Growth, Gumi /Yeosu National Industrial Complex

In line with the government's policy towards fostering the infrastructure industry, starting in 1974, K-water initiated the construction of national industrial complexes in the Yeosu, Changwon, Onsan and Gumi areas. The national industrial complexes Changwon and Onsan have been completed, while the complexes in Gumi and Yeosu are in the construction process. The Gumi industrial complex that was initiated in 1977 currently has 2 complexes, #2 and #3, which were completed in 1995. The 2 complexes cover an area of 7.4km<sup>2</sup>. The #4 Gumi industrial complex is targeted to be completed by 2010 with an area of 6.8 km<sup>2</sup>. To comply with the government's low carbon green growth policy, the complex will be developed into an environmentally-friendly complex by adopting new & renewable energy facilities, high efficient energy utilization facilities, and a bicycle network. The complex has truly grown into Korea's largest national industrial complex with major domestic and overseas global corporations such as Samsung, LG and Exxon-Mobile, and approximately 1,800 other companies will be located in the complex. As Korea's largest general petrochemical complex, the construction of the Yeosu national industrial complex was completed with an area of 11.3 km<sup>2</sup> between 1974 and 2000. The Yeosu complex expansion project that was initiated in 1992 is expected to be completed by 2012 with an area of 7.81km<sup>2</sup>. Currently, petrochemical companies such as GS Caltex and LG Chemicals have operations at the complex. By developing the complex in conjunction with the greater Gwangyang Bay area, K-water is contributing to balancing regional development and to securing national competitiveness.

Satellite bird-eye view of Gumi National Industrial Complex



Bird-eye view of Gumi National Industrial Complex



## Global K-water

Utilizing its accumulated advanced technology and experience gained from domestic water management, K-water will do our best to share in the benefits of water by providing clean water to people in areas which face difficulties due to water problems.

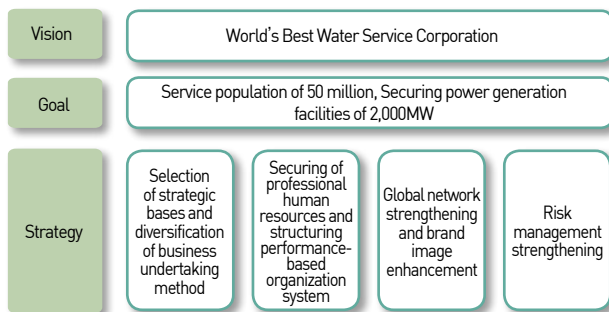
### ● Flow of the Global Water Market

As of 2009, the private service population in the global water market size was 800 million KRW. As the global water market is expected to significantly increase to meet the needs of 1.16 billion people by 2015, the aspect of the business scale is expected to increase to 1,000 trillion won. Therefore, the competition surrounding the water market is intensifying.

In the early 2000s, water companies in France and the UK took 70% or more for the market, but recently, the overseas advancement of European countries in Germany, Spain, Italy and others has increased and many countries, including, China, have the water industry competitiveness strengthening policies to engage in fierce competition for the water industry market around the world. Utilizing its 40 years of technological capabilities in the water resource area, its credit level, and its internal/external networks, K-water is entering the global water market and contributing to the wealth of the nation.

### ● Project Implementation Strategy

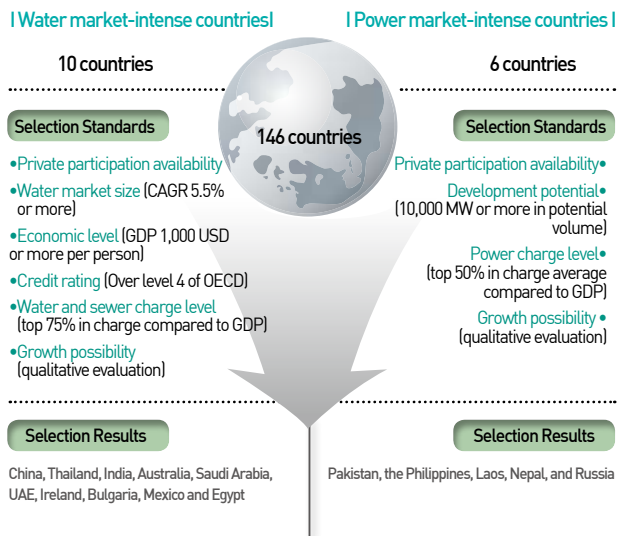
In order to respond to the drastically changing market situation, K-water has established mid-term and long-term "overseas water market advancement strategy and road map" to undertake active advancement in technology service and investment business. This strategy presents the direction and practical plan through diverse aspects ranging from strategic base selection to risk management with the goal for a service population of 50 million domestic people (26 million people overseas) and power generation facilities of 2,000MW by 2020 in order to realize its mission to be a top 3 global water corporation.



### ● Selection of strategic bases and diversification of business undertaking method

K-water has undertaken efforts to advance into the overseas market for some 10 years through undertaking a feasibility survey, implementation design, work supervision and others and it has contributed in the diversification of the business field as well as business capability strengthening in its completion of 13 water resource businesses, 12 waterworks businesses and 5 hydro-power

generation businesses, and it has diversified its business structure through investment business advancement in Patrind hydro-power generation project in Pakistan, regional waterworks project for Shayang Xian, Jiangsu Province, China, and others. In addition, K-water has made in-depth analysis of water market for water market size for each country, market entry type, status of market share for multi-national companies and others, and through the analysis of major evaluation categories on 146 countries worldwide, it has targeted specific countries (10 water market countries and 6 power market countries), and specialized entry strategy has been established to fit into the characteristics of the target countries in comprehensive consideration of local conditions, business type and others.



### ● Securing of professional human resources and structuring performance-based organization system

The Overseas Business Division was launched in December 2010 and the organic network system for each business function has been structured through a project-oriented flexible organization operation for maximizing the efficiency in human resource facilitation following the operation of a regional-based exclusive team and full scale overseas business expansion. And, K-water has structured the basis for an appropriate assignment of required human resources for an overseas business specialized human resource pool system.

### ● Global network strengthening and brand image enhancement

K-water also contributed to economic development and international cooperation through water resource development in the Asian region,

which has limitless potential. An employee was dispatched to Thailand, a water resource expert was dispatched to the Asia Development Bank (ADB) in the Philippines, and an employee was dispatched to Dubai as a resident employee to secure a bridgehead in the Middle East, which is growing into the largest global water market. Diverse efforts and activities are progressed by establishing networks with regional local governments, initiating strategic PR activities, and searching for new projects. In particular, K-water held the "K-water Road Show" in the Philippines and Thailand for structuring the foundation for discovering the overseas new businesses to enhance the brand value of K-water and secured the business bases. In addition, by taking and leading the drastically growing overseas water market, K-water has structured the strategic partnership with Samsung Corporation and other domestic private companies and entered into MOUs with overseas government institutions, such as, Prem Foundation of Thailand, National Water Corporation of Saudi Arabia and others for strengthening the cooperation as well as expanding the strategic alliance with overseas government institutions and local businesses.

### ● Business risk management strengthening

Any overseas business involves unique national risks, such as, policy of the advanced country, exchange rate and others in addition to the risk in the business itself. With respect to the response thereof, K-water publishes the information report for market trend and investment condition tailored for diverse entry type for each strategic country to respond thereof. Furthermore, it secures professional business information through international investment advisory companies and domestic and overseas strategic partners and through the strengthening of an information collection system for overseas resident employees and international education completed government employees in a way of complete analysis for investment environment in advance in politics, laws, systematic part and others on major strategic countries.

For each project, it organizes and operates a Risk Management Committee, consisting of professionals in respective fields, such as, law, finance, technology, and others, and undertakes the risk management system

strengthening and the systemization with the focus on comprehensive risk management in a management resolution organization with regular reports and others, and has established a successful business plan by undertaking a business selection structure and risk recognition strengthening system through an international outside professional advisory company. For securing the financial soundness following full-scale business investment, it seeks for an efficient procurement fund, including, domestic and an overseas project financing major financial institutions, participating of financial investors and others, and it subscribes to overseas investment insurance to assure the risks in default of terms, war, force majeure and others as well as seeking to disperse the risks through the joint advancement in overseas projects through the consortium organization with private companies.

### ● World's Best Comprehensive Water Service Corporation

As Korea's representative water service corporation, K-water is following the government's policy to promote the overseas expansion of public enterprises. K-water is utilizing its overseas project execution capabilities and technological expertise accumulated by executing 30 projects in 18 countries. With this, K-water will expand opportunities for private enterprises to enter into the overseas market as a result of public enterprises expanding overseas, and will also take the lead in creating national wealth. By realizing its corporate mission of "Water for a Happier World," K-water will do its best to advance in its goal of being the world's best comprehensive water service corporation.

In-progress Projects	Completed Projects
14 Projects in 12 Countries (KRW 808.5 Billion) <sup>1)</sup>	30 Projects in 18 Countries (KRW 35.7 Billion)
Asia (China, Philippines, Indonesia, India, Pakistan, Cambodia, Vietnam, Laos, Uzbekistan) ] Middle East (Afghanistan, Iraq) Africa (Equatorial Guinea)	Asia (China, Philippines, Vietnam, Nepal, Cambodia, Bangladesh, Indonesia, Mongolia, Sri Lanka, Laos) Middle East (Afghanistan, Iraq) Africa (Kenya, Rwanda, Congo, Equatorial Guinea) Americas (Peru, Haiti)

<sup>1)</sup> Total project cost standard: Total cost spent to ODA and technical service project, Invested business (Investment and Project Financing of K-water and joint participated companies)

### ● BEST PRACTICE



### Water supply service in Siyang Xian, Jiangsu Province, China

Through the regional waterworks business in Siyang Xian, Jiangsu Province, China, entered into the implementation contract in 2010, K-water has been supplying water for approximately 980,000 residents in Siyang Xian, Jiangsu Province, China, from 2011. This project is the project to supply clean and rich tap-water to local residents through facilities that operate efficiently and the new water purification plant construction by acquiring 2 existing water purification plants and waterworks business right from the local government jointly with the state owned local company of China and Kolon of Korea. Through this project, K-water fully facilitates the regional waterworks operation technology accumulated since 2003 to contribute to the local economic development and welfare promotion of local residents as well as create to the national wealth through a leading private sector to advance into the overseas water industry and preparing the basis for advancing to the world's largest private water market China.

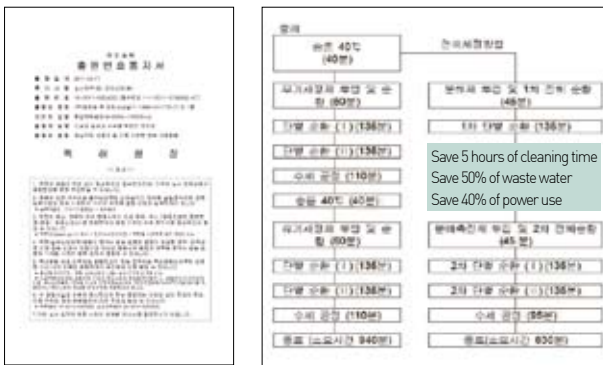


# Operation efficiency of industrial water and construction of tailored water supply facilities

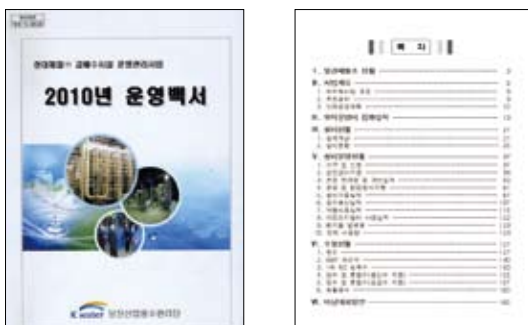
## ● Efficiency in operation and management of Dangjin Hyundai Steel water supply system

Since the commencement of the consignment operation on industrial water facilities (192,000m<sup>3</sup>/day, Reverse Osmosis) of Dangjin Hyundai Steel Plant in 2009, K-water is doing its best for the early stabilization of the facilities and the operation a management efficiency. With the commencement of starting the largest RO(Reverse Osmosis) supply facilities in Korea, the efficient operation system fitting for early operation status analysis based on the facilities characteristics have been structured and operated. In particular, K-water has developed an efficient RO CIPC(Clean In Place) method, an important process that requires substantial time and expenses at the membrane facilities and is currently in the process of an patent application. In addition, K-water is committed to placing diversified efforts for stable and efficient facilities operation management as publishing the 「operation manual」 (Mar. 2011) for systematic operational management.

### I Patent application for RO CIP I



### I Publication of operation manual I



K-water contributes to the improvement of corporate competitiveness and environmentally-friendly green growth with the continuous operation efficiency effort and environmentally-friendly tailored water supply facilities construction.

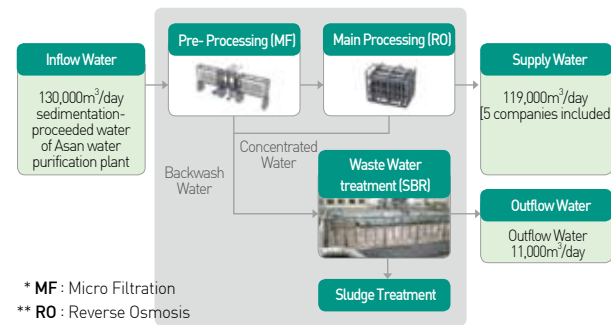
## ● Design and Construction of Daesan tailored industrial water integrated supply facility

K-water has completed (May 2011) the design for the integrated facilities for supplying tailored industrial water for 5 companies in Daesan – Imhae Industrial Region (Hyundai Oil Bank, Samsung Total, Honam Petroleum, LG Chemical and KCC) and scheduled to commence the water supply from June 2012 through the construction work which will last approximately 1 year. This facility has the sufficient application case to satisfy the needs of a customer with its excellent salt removal rate and MF pre-process processing with outstanding processing capabilities and applies them with a high efficiency energy saving type reverse osmosis (RO) with high production. This facility has applied RPS (Rolled Pipe System) - SBR waste water processing engineering method registered as a new environment technology and it is scheduled to be equipped with environmentally-friendly facilities for green growth for facilitating in-flow water pressure, an application of a pump attached with an energy recovery device, installation of a solar energy generation standard, and an outdoor and indoor LED.

### I Bird-eye view on facilities I



### I Water treatment processing I





# K-water technology development

K-water leads the domestic technology of water facilities design, work and operational management fields as well as water management and dam safety management fields, such as, multi-purpose dam water utilization and regulation.

K-water has placed a lot of effort for the early securing of core technology through 'selection and concentration' to accomplish the business strategy and respond to internal and external environmental changes, such as 'Low Carbon Green Growth,' national development strategy and others. In the water resource field, K-water has undertaken core technology development with a focus on global climate change issues through strategic responses such as the 4-river revitalization project, integrated water resource management and others. Furthermore, for the water service field, the water industry is recognized as a new growth engine to undertake strategic R&D for developing the step-by-step technology branding and high level processing industry as the national new growth engine to accelerate the market control. Accordingly, K-water has undertaken the star brand technologies in developing core technology tasks and core technology branding that reflect environmental change and management issues both at home and abroad with its comprehensive plan for enterprise technology innovation in 'Core Tech 1080'.

## ● Water resource field

### ① Integrated water resource management: Development of IWRMS and flood forecasting system

From the national R&D project launched, K-water has been structuring the multi-purpose dam reservoir groups in consideration of the water volume and water quality through the 'Basin Water Management Operation Technology Development' as a part of an integrated water resource management technology development and the 'IRWMS (Integrated Real-time Basin Water Management System)' to support the basin unit connection operation of the river. The IRWMS has a basin manager to consider the water volume and water quality status in real time for rivers and reservoirs as the vast water resource management analysis tool to support the decision making for optimal water distribution and supply in time and space in a way of undertaking basin-unit of scientific and reasonable integrated water resource management to prepare the foundation of a stable water supply and facilitate guidelines to adjust the water resource dispute and water demand control publicity. The IRWMS is under the pilot operation with the Geum-gang water system as the subject, and it is planned to expand the system with the water systems for Han-gang, Nakdong-gang and Seomjin-gang by 2011, and it has successfully undertaken for 'Chitarum River Basin Water Quality Management System Project' (ADB) of Indonesia.

**Integrated water resource management**

- Leading the national technology in the integrated water resource management (water quantity) field, including water utilization, regulation and others
- Technology development in IWRM, flood forecasting system and others




### ② Dam safety management: Development of dam real-time earthquake sensing system and dam safety management system

For the crisis management of dam facilities at the time of an earthquake, K-water has completed the installation of seismic devices for all 32 dams in 2008 it developed the DEMS (Dam Earthquake Monitoring System) in 2006 to integrate and operate all seismic devices, and in addition, for the safe management of dams, it structured the DIIS (Dam Integrated Information System) to facilitate in maintenance and management works for the facilities. The DEMS is an optimized system structured by collecting the seismic meter of each dam to exclusive cable for real time earthquake sensing and prompt earthquake notice for wavelength data collection and monitoring, maximum acceleration analysis and expression. When an earthquake occurs (0.01g or more), the personnel in charge of dams nationwide are forwarded with the earthquake warning SMS to set the action plan by checking the damages to the dam after the earthquake and undertaking emergency inspections.

**Dam safety**

- Leading domestic technology in dam safety fields (system, stability evaluation and others)
- Dam real-time earthquake monitoring system and dam safety management system development



### ③ Water environment system: Development of the Algal-bloom removal vessel

Under the need of high efficiency, low cost and environmentally-friendly Korea-type green alga reduction technology, K-water has developed the Algal-bloom removal vessel to effectively manage the shallow multiple green alga concerned areas and prevent the dispersion into the reservoir lower water basin in advance. The Algal-bloom removal vessel is comprised with absorption, water collection, filtering and recovery equipment to separate and facilitate the green alga in an environmentally-friendly method, and it has an ultra light weight to have the access from shallow area (1m) to deep areas, and it completely removes the green alga in the vessel that it is easily operated by finding the green alga areas around. In addition, all systems are automated, easy to increase its processing capacity, and have a higher economic savings effect in the aspect of costs for operation, maintenance and management aspects than the previous technology. The final product will be directly used in bio-mass energy, functional natural substance production and others to be actively contributed to the policies of pre-circulatory type resource facilitation. 4 cases of relevant technologies have pending applications for patents, followed by applying for the national environment technology certification, and in addition, it has won the Award of the Minister of Science and Technology in December 2010 for the 'Second National Greentech Award'.

**Water environment system**

- Securing the base technology in river ecology health in consideration of q0 volume and water quality at the same time
- Development and commercialization of the Algal-bloom removal vessel
- Structuring pollutant source information management system



**Water purification field**

- Securing technology for designing, supervision, maintenance and management and technology for existing processing improvement
- Development and commercialization of water purification plant examination program [Dr. Water]



**Conduit line field**

- Secure basic t2 for examination for observatory repairing interpretation and worn out level
- Development of observatory examination program [Dr. Pipe]



**Sewage field**

- Securing unique technology in entire field
- Domestic technology leading MBR processing technology: New technology and branding
- Development of sewage treatment facilities examination program [Dr. Wastewater]



● **Water field**

① **Water purification field: Development of water purification plant examination program (Dr. Water)**

For over 20 years, K-water has accomplished the development and high level maneuvering of water processing examination technology on the basis of its performance in over 2,000 on-site examination supports and its examination technology, and as a result, it has developed an integrated technology examination program for water purification plant, the integrated body of high added value core technology [Dr. Water]. Dr. Water began as one of the G7 tasks of the Ministry of Environment in the 「development of water purification plant examination technology,」 and was continuously undertaken at the K-water Research Center to have successful development of a self-examination module in 2008.

Dr. Water is a knowledge based type integrated technology examination evaluation system for a water purification plant that may examine 14 processes and 67 categories through the standard processing (base capability evaluation, discharge water processing facilities evaluation, sterilization and other corrosion index evaluation and high level processing ozone and active carbon absorption processing evaluation) examination technique, and it is expected to undertake a major role in leading the domestic water facility technology examination and the strengthening of competitiveness in water businesses for K-water. Through sustainable R&D and on-site application, it will take its position as the only specialized tool for water facilities technology examination in Korea. Currently, the trademark branding and product sales are undertaken and it will be facilitated in examination work projects for regional waterworks.

② **Conduit line field: Distribution rate examination program (Dr. Pipe)**

By participating in water processing advancement project of the Ministry of Environment, 「Water Distribution rate in Optimal Design and Water Quality Management Technology Development [Dec. 2004 ~ May 2011],」 K-water has developed the water distribution rate capability examination package [Dr. Pipe] to undertake on-site examinations. Dr. Pipe is a computer program for water distribution rate capability evaluation and examination for the first of its kind in Korea that it is comprised to undertake an accurate decision making on the basis of the individual evaluation of the Hydraulion field, water quality field and facilities field.

On the basis of CAD and GIS, the distribution rate drawing required for an easy distribution rate interpretation for everyone is prepared, and the flow of underground water distribution rate can be forecasted through the water volume and water quality forecasting simulation model, and in addition, it has developed the estimation technique for aged conduit pipe evaluation and residual life to support the scientific facilities improvement in decision making.

③ **Sewage field: Sewage treatment facilities examination program (Dr. Wastewater)**

Since 2004, the K-water Research Institute has developed 「Self-examination type sewage treatment facilities operation and management system: Dr. Wastewater」 comprised with the 「deductive examination technique」 and 「core element technology」 that it has independently developed.

In 2008, joint research was undertaken for the development of the commercialization of a Web-version for Dr. Wastewater, and with the beginning of empirical facilities application for Oigwan Sewage Treatment Facilities in 2009, the system has been in facilitation in various sewage treatment businesses for some time now. The Ministry of Environment has undertaken the water quality TMS (Tele-Monitoring System) structuring project for reasonable calculation of waste water discharge imposition, real-time monitoring of pollutant substance and others, and the 「Enforcement Regulations of the Water Quality Environment Conservation Act,」 was revised to obligate the attachment of the water quality auto-measurement equipment for each sequential year. Following such strengthening of the water quality standard, it would require stable water quality and economic operation and management technology that K-water has developed its own self-examined water treatment plant operation and management system.

Dr. Wastewater facilitates the TMS measurement figure as the data for processing the examination and problem solution for the first time in Korea and it enables the real time inflow water for characteristics analysis and discharged water quality forecasting. In other words, this is the first self-examination type processing operation and management system of Korea that undertakes the real time status monitoring for each processing at the complicated water treatment plant, analysis and forecasting of discharged water quality, real time problem solution and independent examination of water treatment plant. Considering the emergence of importance in water treatment for the 4-river restoration development and linkage with the stringent water quality management system of the government in TMS, Dr. Wastewater is expected to undertake a great role.

## Water is namely the life

The rivers and creeks which flow like a mesh everywhere on the earth, the blue star has become the blood vessel which delivers the life.

The lakes which accept everything by embracing become the energy center for reserving power.

The water flowing on the earth becomes the origin of life in such a way and becomes the nutrition to a healthier life.

K-water is together with the water of life which delivers life and grows the for future.

48\_Green Management System / 50\_Green Network / 52\_Counteracting Climate Change  
54\_Environment-friendly Green Development of Water Resources  
56\_Protection of Bio-diversity / 58\_Management of Water Quality  
60\_Source Water Quality Improvement

# CHALLENGES

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## GREEN Environment





## Green Management System

By operating diverse green management programs and continuously improving environmental performance through internalization, potential management risks are minimized, while creating new green values.

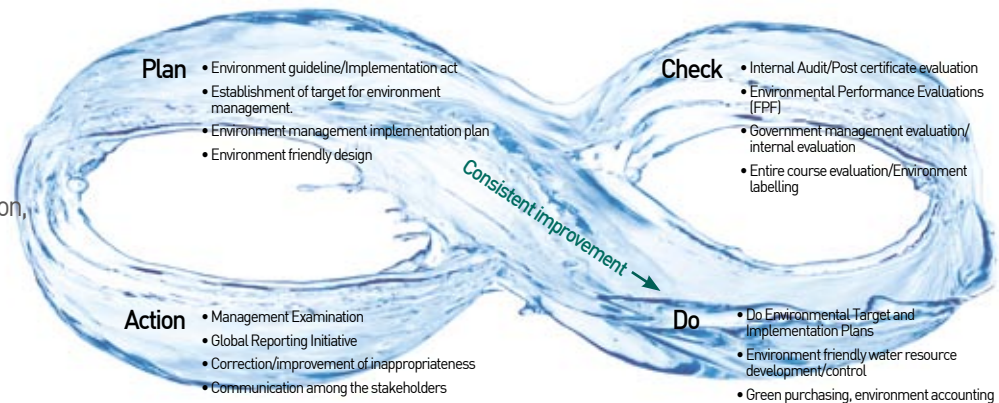
**137** Points,  
EPE Improvement Index

### ● Environmental Management System

Since K-water first received the Environmental Management System (ISO14001) certification in October of 2002, K-water's Environmental Management System has continuously been evaluated for its effectiveness through annual post management audits and renewal audits every 3 years. ISO9001 & ISO14001 standards are reflected in K-water's corporate regulations. According to the environmental management work process outlined in the corporation's regulations, each department is carrying-out duties related to Environmental Impact Evaluations, Establishing Environmental Targets Establishment, Environmental Audits and Environmental Performance Evaluations (EPE). In 2009, K-water was the first company in Korea to receive the ISO/CD26000 (Corporate Social Responsibility International Standard) level diagnostic evaluation. As a result of the evaluation, out of the 200 items in 7 categories, K-water was in compliance with 187 items achieving a compliance rate of 94%. This elevated K-water's status as a corporate leader in social responsibility.

Pursuant to the 'Frame Act of Low Carbon Green Growth', enacted in 2010, K-water has undertaken a green management system certification by connecting the revision of internal regulations in existing quality and environment management regulations for revision and existing environment management system in undertaking green performance evaluation and others for the initiative introduction of a green management system as it was introduced in July 2011. Through this effort, K-water uses the synergy effect with the existing environment management system with the conversion into the company-wide low carbon management in doing its best for strengthening the capability as a global company through securing the global low carbon competitiveness.

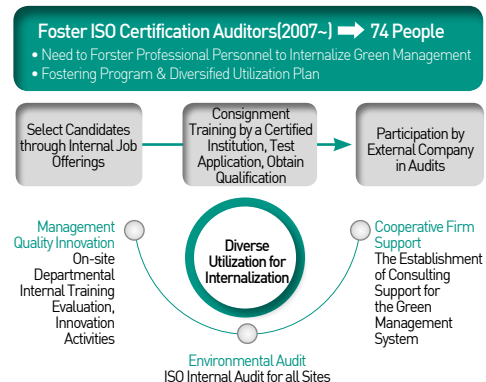
**66.4** Billion won,  
2010 Environmental  
Investment Amount



### ● Internal Audit

In accordance to ISO14001 and corporate regulations, K-water holds an environmental audit every year for each business site to evaluate and improve the environmental management system. After an internal audit on the entire management process for all departments through the ISO dynamic cycle (P-D-C-A), an external certified institution carries out an overall audit on K-water's environmental management system. To internalize environmental management and strengthen internal management quality assurance competencies through a strategic audit of the overall environmental management system, between 2007 and 2011, 74 internationally certified ISO certification auditors were trained. Through this, K-water was able to strengthen its internal assurance capabilities regarding ISO standards. In 2010, through an internal and external audit, 209 items were respectively found to be inappropriate. Measures were immediately taken and reflected in K-water's management to prevent any further occurrences.

### I Training of ISO Certification Auditors I





### ● Environmental Performance Evaluations (EPE)

In 2003, K-water implemented the Environmental Performance Evaluation (EPE) program based on ISO14031, to carry-out regular measurements and a diagnosis on its environmental performance as part of its environmental management activities, and for systematic management through continuous improvements. K-water introduced and implemented the Environmental Performance Evaluation (EPE) program based on ISO14031 after 2003, to carry-out regular measurements and a diagnosis on its environmental performance as part of its environmental management activities, and for systematic management through continuous improvements.

EPE electronic system is established and EPE is implemented its system from 2006. In January of 2007, K-water was the first company domestically to acquire a patent for its EPE Electronic System.

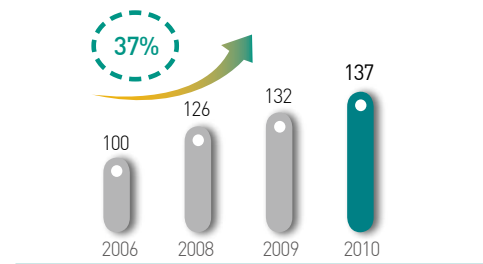
EPE Index was adopted to understand relative improved level compared to that of the base year of environmental performance(2006), is managed as the core index of corporation for medium and long-term strategic plan. The EPE Index score in 2010 was 137 points, an improvement of 37% more than its base year in environmental performance.

### ● Environmental Expense Calculation

K-water adopted environmental accounting to enhance environmental investment efficiencies and performance. By establishing eco-cost concepts & standards that are appropriate to K-water in 2000, environmental costs and investments are calculated annually. An electronic management accounting system is used to more systematically utilize environmental accounting results, enabling new environmental investment and capital budgets to be used in decision-making. The environmental cost of 2010 was 135.1 billion won, an increase of 12% compared to the previous year, but due to the increase of the entire cost, it has accomplished 10% of business costs, and the environment investment was 66.4 billion won, an increase of 55% compared to the previous year, but due to the increase of total investment expenses, it was around 5% level of total investment that the intense investment has been made for environment pollution prevention and disposition costs.

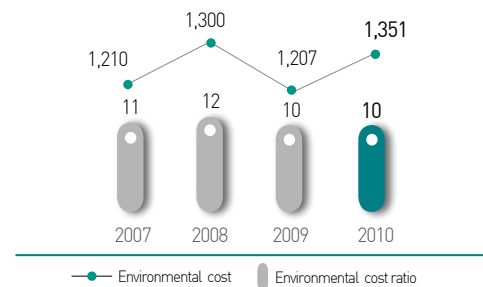
#### I EPE Index I

[Unit: Point]



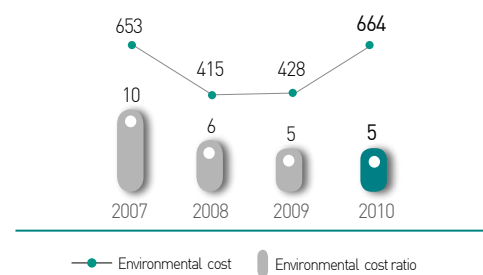
#### I Total Cost / Environmental Cost Ratio I

[Unit: KRW 100 Million won, %]



#### I Total Investment / Environmental Investment Ratio I

[Unit: KRW 100 Million won, %]



### ●●● BEST PRACTICE



### Winner of the 2011 Grand Award for Green Management of Korea [Green Management Specialization Award]

In June 2011, K-water won the '2011 Grand Award for Green Management of Korea [Green Management Specialization Award], the highest prized government award in national environment management field granted to the company that contributes to outstanding environment management as a way of enhancing the national competitiveness through the dispersion and expansion of environment management.

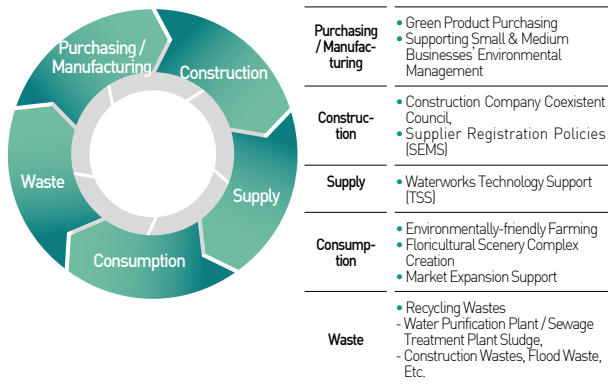
K-water introduced the environment management for the first time as a public enterprise in 2002 to operate diverse green management in EPE system, CL and others to lead the green management in the public sector. It was selected as the winning company by receiving a high evaluation in contributing to the national economic advancement with its environmentally-friendly water resource development, such as, Gyeongin Ara Waterway business, 4-river restoration b1 and others.

## Green Network

We strengthen the green growth infrastructure in the entire supply network of K-water and carry out the environmentally-friendly supply network to accomplish joint growth with the stakeholder.

By managing its environmentally-friendly supply network for the entire supply network process from purchasing to wastes, which includes expanding green purchasing, supporting small & medium businesses' green management, carrying-out coexistent cooperation with construction companies, and supporting environment-friendly farming, K-water is seeking to achieve mutual growth with cooperative firms and local citizens.

### Environment-friendly Network Management by Stakeholders I



### ● Green Purchasing

To strengthen its environmental management practices from production to consumption, K-water adopted green purchasing policies in 2002. Purchasing was strengthened by efficiently managing green purchasing. Green purchasing operating policies & the system are being improved through a joint system operations with the Korea Environmental Industry & Technology Institute. Going a step further, by applying and managing environmentally-friendly products as part of the EPE System, K-water's 2010 green purchasing performance increased to KRW 11.6 billion, an increase in growth of 25% when compared to that of the previous year. Environmentally-friendly products include those with the Environment Mark or Energy Recycling Mark, and Environmental Labeling & Energy Efficiency Management Products. This is 64% of the compulsory purchase target for environmentally-friendly products which the Ministry of Environment established.

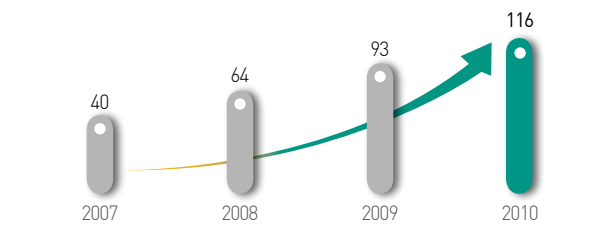
### ● Coexistent Cooperation with Construction Companies

To establish and expand coexistent cooperative partnerships with the construction sector, a Coexistent Consultative Group consisting of construction organizations, principal business recipients and subcontractors Through the communication channel in "Construction Company Coexistent Council", the problems between contractor and subcontractor are adjusted and the troubled matters and work process

are to be improved. As established in 2006 for each business, in 2010 construction businesses with the Consultative Group expanded to 33, which include dams and waterworks construction. K-water is creating a sound sub-contracting culture to achieve mutual growth with small & medium institutions in the construction sector.

### I K-water Green Purchasing amount I

(Unit: KRW 100 Million)



**11.6** Billion won, 2010 Green Product Purchasing Amount

### ● Supporting Environment-friendly Farming in Areas Adjacent to Dams

The objective of the Eco-friendly Farming in Areas Adjacent to Dams is to induce farmers in dam flood control areas to cultivate land using eco-friendly farming methods such as organic farming and non-agricultural chemical farming to create a dynamic economy and to preserve the water quality of reservoirs.

Compared to that of 2010, 1,396,000m<sup>2</sup> of land was converted to eco-friendly farmland. K-water provided environmentally-friendly farming equipment, natural composts and agricultural training to support farmers. Additional support was provided which included residual agricultural chemical testing on soil and cultivated products, and heavy metal inspection. K-water also assisted in farmers acquiring environmentally-friendly farm product certifications for no or little use of agricultural chemicals. K-water also played a role in helping local farmers achieve KRW 738.5 billion in sales between 2005 and 2010 by arranging sales to large outlets such as women's association in apartments and large food processing plants, and through participation in various farm product sales events. By converting to environmentally-friendly farming, the water quality of dams, which is the supply source for water, has been preserved, while the local farming income has increased. This contributed to the national and local citizens' appreciation of the dams.

**| Environmentally-friendly Farming Implementation Status & Plan |**

Category	2007	2008	2009	2010	~2012	Total
Conversion Area	1,864	1,170	1,468	1,396	2,528	8,426

(Unit: thousand m<sup>2</sup>)

**1,396** Thousand m<sup>2</sup>  
 Transferred Area to Environmentally-friendly Farming in Areas Adjacent to Dams in 2010

**| Environmentally-friendly Farm Product Sales Amount |**

Category	~2006	2007	2008	2009	2010	Total
Sales Amount	514	709	1,805	2,371	1,986	7,385

(Unit: KRW Million)

**1,986** Million won  
 Sales Amount by Supporting the Sale Channel of Environmentally-friendly Farm Product in 2010

**● Voluntary Support of Cooperative Firms Establishment of an Environmental Management System**

Now corporate social responsibility is not just limited to the company alone. Responsibility has been extended to the entire life-cycle of production. Cooperative firms voluntarily participate in environmental management and the establishment of the clean production system establishment helps strengthen small & medium businesses' environmental management capabilities. At the end, it can also strengthen K-water's competitiveness. K-water provided diverse environmental management programs to cooperative firms (small & medium enterprises) that lack the personnel, information and infrastructure to help them develop into environmentally-friendly corporations. The programs include environmental management training to help establish ISO14001, environment management technology support service, certification auditing, and certification expense & post-management expense support. Through this, K-water was able to establish a coexistent green partnership, enabling it to receive environmentally-friendly products and services. Each of the cooperative companies structures the tailored environment management system for each company through the environment management support business along

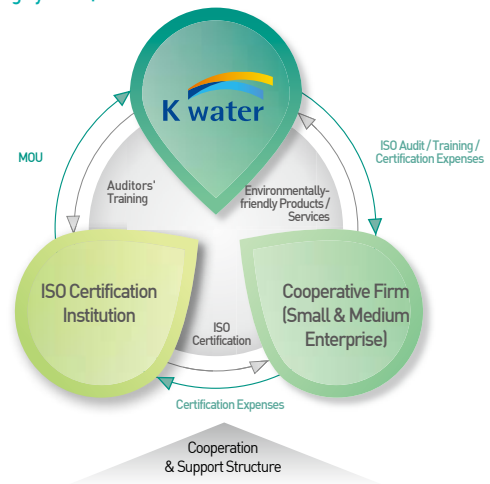
with the diverse business performances in a structuring law complying process, securing the crisis management responding capability, structuring environment management infra, environmentally-friendly products and service enhancement, structuring VOC management, structuring of clean production, consumption system and others, and it is expected to lead diverse environment management benefits in improving the corporate productivity, sales increase through customer satisfaction enhancement, cost savings through environment cost reduction and others.

K-water plans to complete its social contribution with cooperative companies through structuring the environmentally-friendly supply network with cooperative companies as well as structuring its overall environment capability in industry. K-water plans to expand the environment management program on structuring the environment management system for ISO14001, Carbon Labeling Certificate System, introduction of green purchasing, and publication of sustainable management report. And it further plans to strengthen even more for corporate environment soundness by undertaking the corporate social contribution together with cooperative companies through securing the green growth foundation on an entire supply network and the completion of environmentally-friendly network.

**| K-water environmentally-friendly supply network master plan |**



**| Small & Medium Businesses' Green Management Support business Implementing System |**



# Countering Climate Change

By aggressively participating in global green house gas reduction efforts to counter climate change, K-water is pushing forward with sustainable development, leading the government's low carbon green growth efforts.

## ● Strengthening of technology for climate change responding to water management

Following the prospect of acceleration of global warming by the inter-government bodies on climate change, IPCC (Intergovernmental Panel on Climate Change), and other international organizations, response to climate change has emerged as the priority agenda of the international community. For joining the effort to respond to world-wide climate changes and realize green growth, the government has completed a comprehensive plan for responding to climate change (Sep. 2008) and K-water has established the strategy master plan (Dec. 2009) to respond to the climate change crisis and convert it as an opportunity to generate a new growth engine. In addition, it has established the mid-term to long-term master plan (May 2010) for climate change responding to water management technology development to improve the green technology capability of K-water in consideration of tailored responsive climate change strategy of K-water and securing the core technology in the water management, as well as the global trend. K-water has structured the promotion strategy for setting the R&D portfolio for generating a new green engine and securing the core technology in the water management field in the way of establishing the Korean-style water management technology by responding to climate change by 2020 as led by K-water in leading the national low carbon green growth policies.

### | K-water climate change R&D Implementation Plan |

Vision

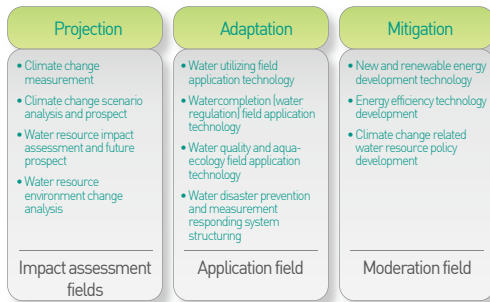
**Support of K-water green growth and realization of low carbon society through climate change adaptation**

Objective

- Adapting to climate change appropriate to advanced countries and securing 80% or more of technology level by 2015
- Leading water management technology to respond to Korea-type climate change led by K-water by 2020

R&D strategy

**Water management technology for responding to climate change**



## ● Systematic Effort to reduce green house gases



GHG Inventory Certification

To create a low carbon green management platform to counter climate change, K-water acquired verification from a global verification institution, Det Norske Veritas, located in Norway (DNV). This was accomplished by researching and analyzing green house gas types and emission quantity that is produced during a business's entire life-cycle.

Reduction technology and potential emissions quantity was also researched and ana-

lyzed. K-water also prepared and managed a statistical table. In addition, in order to prepare the Energy Management System which is obligated to be introduced, K-water has acquired KS 4000 pilot certification for the water intake plant of Paldang Regional Office in December 2010 and it has undertaken for certification from 2012 for the ISO 50001 as finished in dimension so that it plans to expand the certification into 2,000 TOE or more of energy consumption in 2013 and structuring the certification on the entire business premises after 2014.

In addition, in order to realize the green IT, 889 PCs were replaced with low power PCs, and the existing computers have been virtualized to have the reduction of 412 tons/year of CO<sub>2</sub> by introducing the cloud computer to integrate the servers.

K-water has introduced the Carbon Labeling system for the first time for the domestic water business and public enterprise to realize the low carbon green business premises, and in addition, it has implemented all events of K-water with carbon neutral ways that all major events with certain size or larger are required to undertake in green events through carbon neutral certification.

In addition, within the scope of improving energy efficiency and carbon efficiency together with the reduction of direct greenhouse gas discharge volume, K-water manages the carbon cleanliness (total greenhouse gas discharge volume/energy use volume) and carbon efficiency (total greenhouse gas discharge volume/sales revenue) through the carbon intensity index management.

The carbon cleanliness of 2010 based on the inventory system has shown to be 2.15, an improvement over the previous year, and it has maintained a lower level than the domestic average. This means that, when 1 TOE is consumed, it generates 2.15 CO<sub>2</sub> tons of greenhouse gas. The carbon



cleanliness is an index to tell how much carbon is discharged when energy is consumed. As the cleanliness is lower, it means less discharge of carbon and a reduction of global warming. The carbone efficiency in 2010 was 24.64, a decrease from the previous year and it means to use 24.64 CO<sub>2</sub> tons of greenhouse gas for accomplishing sales of 100 million won. The total discharge volume of greenhous gas in 2010 was an increase of 5% from the previous year for 527,639 CO<sub>2</sub> tons, and it is attributable to an increase of power used volume following the increase of water supply volume compared to the previous year.

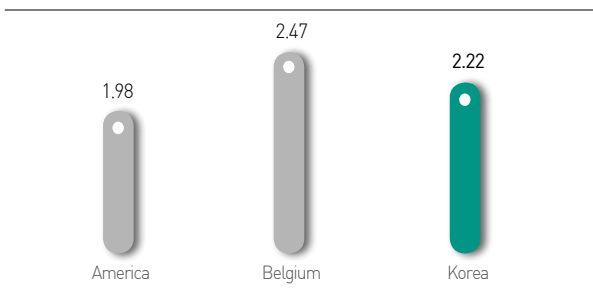
Direct greenhouse gas discharge volume from the use of gasoline, gas and others is 5,639 CO<sub>2</sub> tons, and the indirect greenhouse gas discharge volume from the use of electricity and others is 522,000 CO<sub>2</sub> tons. The main discharge volume of greenhouse gas from K-water would be the indirect energy source for the operation of water facilities. K-water has full-time measurement of greenhouse gas discharge volume in double following the energy use by facilitating the EPE system and recently structured inventory system, and operates the energy savings program for each field to contribute to the corporate competitiveness improvement in reducing greenhouse gas, improving atmospheric environment, reduction of tap-water production costs and others. For the conversion into a high efficiency energy consumption system, the energy efficiency is evaluated from the survey and design phases of various facilities and the power source management on existing facilities has been strengthened. In particular, it has thoroughly managed the power unit for reducing greenhouse gas in the water business field, the main carbon discharge volume of K-water.

● **High level green technology development, such as, intense development of star brand and others**

With the drastic growth in the global water industry market, the new technology paradigm has emerged for expanding business opportunities and a response to climate change. And, it has considered the management environment in 80 technology tasks in "Core Tech 1080", the comprehensive plan for technology innovation which was selected in 2008 for the intense advancement of technologies with a great dispersion effect and selected 27 technologies in 5 fields as the priority subject tasks to develop them as the K-water star brand technologies. In 2010, K-water has selected 5 core technologies as the management innovation tasks, and plans to secure 12 star brand technologies by 2017 to secure company-wide for 90-100% of technology compared to the advanced countries. From the star brand technology tasks, any technology with great economic and industrial dispersion effect goes through the verification process to expand and undertake as a research business group in joint research and priority structuring will be made systematically with a budget and others on research business group tasks. In addition, through the company-wide Carbon Labeling Certificate System and low carbon certification, an efficient management of greenhouse gas discharge volume would be made by structuring a low carbon tap-water production system to prepare for the connection plan of a newly introduced green performance examination (GPE), environment performance examination (EPE) system and inventory system to place a company-wide effort for a climate change response by undertaking an appropriate and effective carbon reduction program for K-water, such as a voluntary greenhouse gas reduction goal, its operation and others through a detailed reduction volume calculation for each business field.

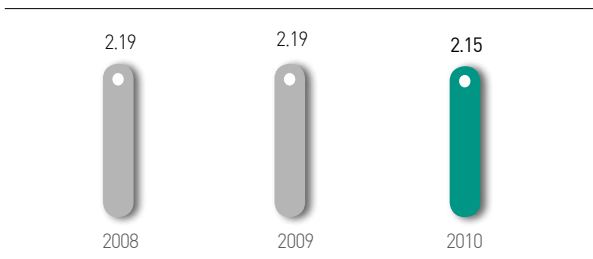
| National and International Carbon Cleanliness |

[Unit: Ton Co<sub>2</sub>/TOE]



| K-water Carbon Cleanliness |

[Unit: Ton Co<sub>2</sub>/TOE]



※ CO<sub>2</sub> generation volume is re-estimated in accordance with the inventory system and government conversion coefficient change

| 2010 Selected Star Brand |

I	Dam-Weir operation technology development
II	IT-based smart distribution rate management system development
III	Demand forecasting-based transportation energy savings technology development
IV	High efficiency membrane filtering for water intake plant processing domestication technology development
V	CNT ROM technology

## Environmentally-friendly Green Development of Water Resources

We take a lead in national green growth by means of environmentally-friendly green development of the water resources in harmony with human and nature through the compliance with the environmentally-friendly design guideline, a preview on the environment and environmental influence evaluation.

For water resource development businesses, K-water is inducing environmentally-friendly development through a step-by-step environmental assessment to secure environmental soundness and sustainability.

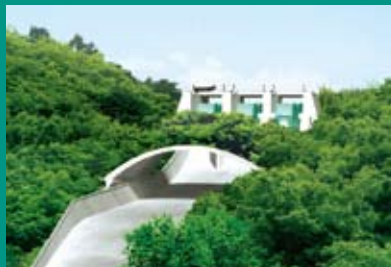
### | Water Resource Development harmonizing with environment |



#### Environmental Assessment

- Strategic Environmental Evaluation : Decide the Environmental Adequacy from the Policy Draft Stage
- Pre-environmental Review : BUSINESS Plan's Appropriateness & Location Adequacy Review
- Environmental Impact Evaluation : Establish Development BUSINESS Reduction Methods

### ●●● BEST PRACTICE



#### Establishment of an arch typed eco-bridge in Gunwi Dam

The disconnection of wild animals from their natural habitats was protected by establishing an arch type eco-bridge which connects the left and right internally as the first in dam construction project for the

stable living of the wild animals. The eco-bridge was installed in dimension of 30m of width and 46m of length. It was newly born as a multi eco space by the greening of the background on the dam body for the dam structure to harmonize with the surroundings of nature.



### ● Regional economy facilitation

By facilitating an environmentally-friendly forestation on the rear side of the dam appropriate to the local characteristics, road construction, integrated migration complex, water culture center, environmentally-friendly ecology park and others, dam and reservoir areas are branding to make an effort for the local economy facilitation and advance-type tourism resources for a valued generation.



Forestation on the rear side of the dam



Road construction



Water-side integrated migration complex



Environmentally-friendly ecology park

### ● Building up a clean and clear living environment

In order to protect the living environment from arsenic acid dust, the noise and vibration and turbid water occurring from the works involving business undertaking, K-water installs environmental impact reducing facilities, such as, the installation of a sound-proof and dust proof net, operation of a water spraying vehicle, installation of turbidity prevention net and others to pay full attention to the protection of river water quality and regional environmental protection.



Construction Site Air Quality Management



Dustproof Cover Installation



Operated Water Spraying Vehicle



Installation of turbidity and pollution preventing blocks

### ● Building up healthy natural ecologic system

The environment conservation and ecology restoration plan for each business undertaking step has been established through an environment and ecology survey to use the trees and vegetations damaged from business undertaking due to landscaping, such as, ecology park and others, and the eco-bridge and fish ways are built to prevent the ecology axis cut-off. Furthermore, it builds up a healthy ecology space in building up the substitute habitat for protected animals, such as, the otter, red-crowned crane and others.



Planting of vegetation and trees



Ecologic route for mobilization



Fish way



Substitute habitat

### ● Securing Clean Water Resources

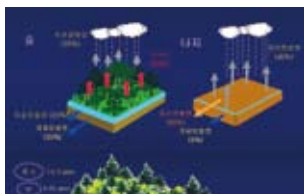
By installing basic environmental facilities upstream of the dam to treat domestic sewage and livestock waste water, and to cultivate a wetlands in the inflow areas of the reservoirs, it can treat the source of non-pollution as well as the source of pollution at the same time. In addition, through the "Taking Care of Forest Business" in the watershed, sources of water supplies are being expanded and self-purification functions are being enhanced to ensure K-water supplies clean water.



Basic Environmental Facilities



Water Purification Wetland



Taking Care of Forest Business

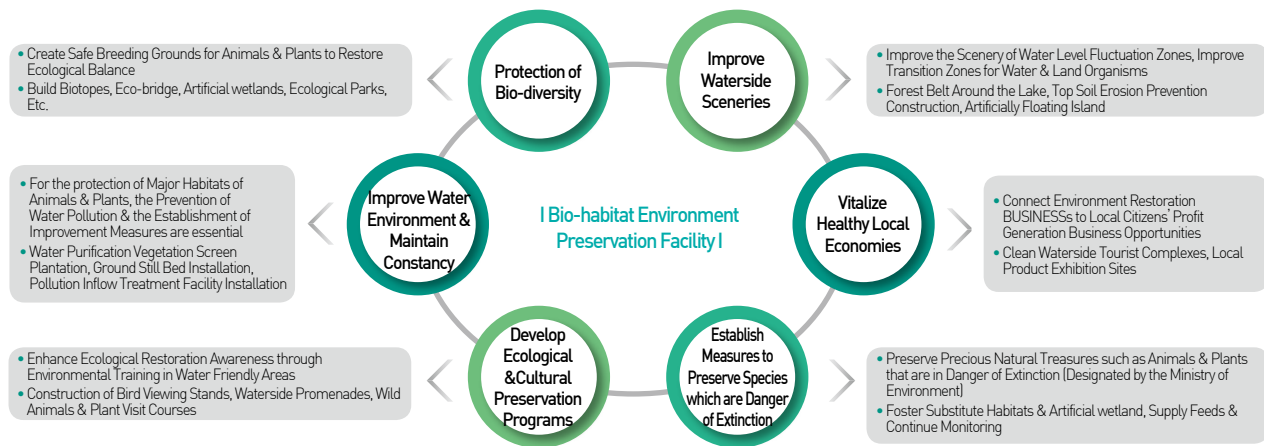


Erosion control dam

# Protection of Bio-diversity

K-water is doing its best to minimize the changes in the ecological environment and maintain a healthy ecosystem where nature and man coexist through environmentally-friendly Green Development.

K-water endeavors to maintain the eco system by spreading the project of protecting various environments reservation and ecology restoration. We strictly control the design, construction and management to reserve the living environment of various animals through such projects as the restoration of the damaged eco system and improving conditions while minimizing the influence on the natural environment from the implementation of the project.



## ● Protection of Bio-habitat Environments

To protect the habitat environments of insects, amphibian animals, reptiles, birds, and Korea's natural treasure, the otter, K-water has been building piles of rocks, piles of timber, ecological ponds, artificial wetlands that also acts as water purifiers, and natural rivers. Fishways and egg laying sites have also been installed to protect fishes' habitats. In addition, movement passageways (eco-corridors) for wildlife have been created using roads that have been relocated. Through the forestation of the rear side of dams, in accord with the surrounding forest vegetation, from an integrated perspective, severing or fragmenting the ecosystem can be avoided. By connecting the surrounding nature ecologically, the natural environment can be maintained as natural habitats.

### | Bio-diversity Habitat Environment Preservation Facility |





● **Ecological Restoration for Protective Species**

K-water established and is implementing its plans to restore ecology by minimizing the impact to the surrounding environment due to water resource development businesses, and by building substitute habitats in areas adjacent to dams to preserve ecology.

● **Monitoring the environment change in the project area**

K-water identifies the changes in the environment by monitoring the water quality, air quality, animal and plant status (Birds, mammals, amphibians

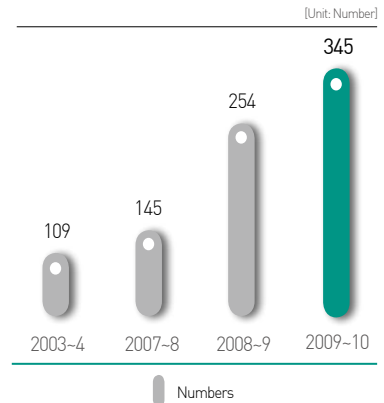
and reptiles, insect, benthic invertebrate and plankton) noise, and vibration and establishes and performs the reduction plan. K-water monitored the habitat environment in precision for the crane (Natural monument No.202) and performed the reservation plan through the establishment of the alternative habitat, establishment of adlay field, feeding event with the local residents, related organizations, environment associations and specialists. More units of cranes have appeared in the area than before the implementation of the project owing to the consistent performance of reservation activities.

**I Results of the Research on Species in Danger of Extinction Around Major Dams I**



Category	Rare and endangered species	Investing year
Soyang Dam	Siniperca scherzeri (golden freshwater mandarin fish) & 3 other Fish Species, Paeonia obovata Maxim (Obovata) & 2 other Plant Species, Short-tailed Viper Snake & 3 other amphibians & mammals, leopard cat & 7 mammal	2002
Namkang Dam	Anax nigrofasciatus nigrofasciatus & 2 other Insect Species, Pseudobagrus brevicaudus & 1 other Fish Species, Otter, Common Kestrel & 1 other Bird Species	2002
Choongju Dam	Crassirhizoma & 4 other Plant Species, Shorttailed Viper Snake & 1 other amphibian & reptilia, Siberian Flying Squirrel & 2 other mammals	2004
Jooam Dam	Reeve's Turtle & 5 other amphibian & reptilia, Yellow-throated Marten & 3 other mammals	2004
Andong Dam	Korean Rat Snake, Siberian Flying Squirrel & 4 other mammals, Common Kestrel & 2 other Bird Species	2003
Imha Dam	Reeve's Turtle, Leopard Cat & 3 other mammals, Mandarin Duck & 4 other Bird Species	2003
Boryung Dam	Otter & 1 other mammal, Chinese Sparrow Hawk & 4 other Bird Species	2006
Booan Dam	Otter, Cobitis koreensis pumilus, Korean Rat Snake, Narrow-mouth Frog & 1 other amphibian, Common Buzzard & 4 other Bird Species	2006
Daechong Dam	Mandarin Duck & 10 other Bird Species, Otter & 1 other mammal	2005
Hapchun Dam	Sparrow Hawk (Accipiter nisus), Mandarin Duck, Leopard Cat & 2 other mammals	2005
Yongdam Dam	Otter, Mandarin Duck & 5 other Bird Species, Pseudopungtungia nigra & 4 other Fish Species, Goodyera schlechtendaliana & 3 other Plant Species, Korean Rat Snake & 1 other amphibian & reptilian	2011
Seomjin Dam	Acheilognathus somjinensis, Far-eastern Brook Lamprey, Microphysogobio koreensis (3 Fish Species); Otter, Leopard Cat (2 Mammals); Lilium distichum (Kochang Lily) (Total 10 Plant Species)	2010
Unmun Dam	Otter, Leopard Cat, Mandarin Duck, Northern Goshawk, Golden Eagle, Pied harrier, Cinnib Jestreok	2010
Hoengseong Dam	Otter, Leopard Cat, Eurasian Buzzard, Striated Bittern, Long-Billed Ring Plover, Osprey, Hen Harrier	2011
Miryang Dam	Milk vetch root & 4 other plants, Otter & 3 other mammal, Cinereous vulture & 5 other birds	2009

\* The changes of the eco environment have been surveyed (period of 10 years) globally and consistently since the establishment of the dam and it was utilized for the basic data for the development and management of the water resources.

**I Status of Red-crowned Cranes Coming Around Business Site I**



**BEST PRACTICE**

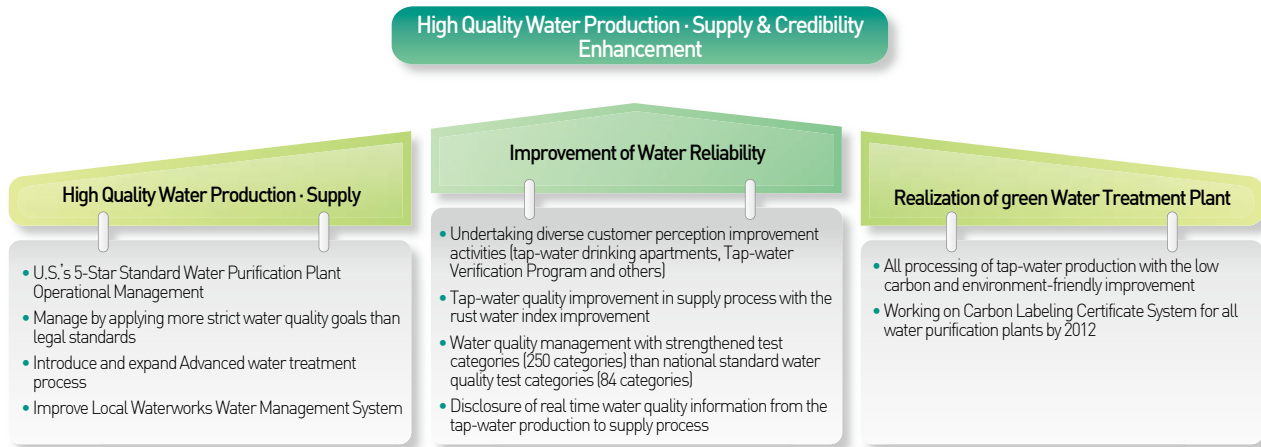



**Area for controlling the flood in Gunnam which was reborn together with nature**

The cranes returned by establishing the crane theme park, alternative habitat (Watery rice paddy, eco wet land) and feeding site for the cranes (Cultivating land such as the adlay field) in the area of controlling the flood in Gunnam where the wintering site of crane is, the natural monument No. 202. The water channel type fish ways are installed on the dam body to connect with the river eco system. The area of controlling the flood in Gunnam was reborn as a treasury of the natural eco system by protecting the eco system in the lower stream of the river by removing heavy metals and explosives which are from the shooting range by means of establishing the sediment pond and wet land at the lower stream near the shooting range.

# Management of Water Quality

The public's trust towards K-water is increasing due to the clean and high quality water being provided to them through advanced water quality management by adopting upgraded purification facilities and lowering the carbon level at business sites.

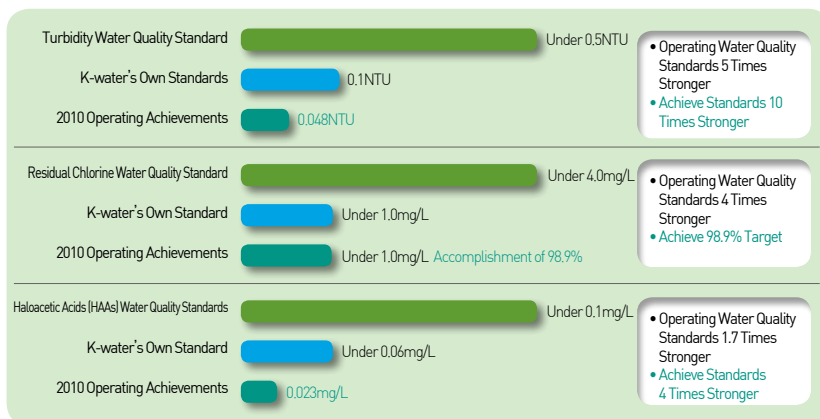


## ● Production and supply of the world's highest level of high quality water

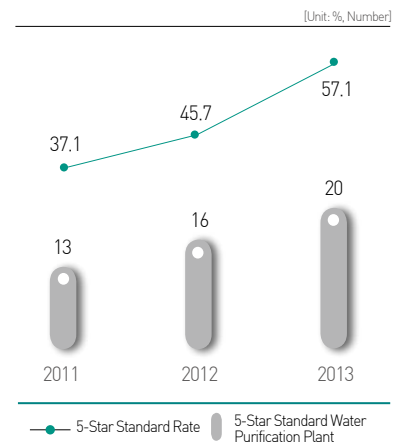
By adopting upgraded purification treatment technologies such as the Ozone and Granular Activated Carbon process, difficulties of eliminating tastes & smells can now be eliminated, while disinfecting by-products and minute quantities of pollutants can be treated, enabling K-water to enhance the quality of water. The upgrade technologies were adopted at 5 water purification plants (Bansong, Goryong, Banwol, Goyang) in 2010, 15 more water purification plants are expected to adopt the new technologies. To utilize IT & Web technologies, K-water has set up a 2nd generation water quality rating system (K-water QPI) to evaluate the water quality of multi-regional water purification plants nation-wide on a real-time basis. Through the "K-water QPI," 14 items, including turbidity, were selected for

concentrated management. The 14 items were strictly evaluated using K-water's own standards, which are stricter than legal standards. This is to achieve higher quality water. In cases of turbidity, the QPI standard is targeted and managed at 0.1NTU, 5 times the legal standard of 0.5NTU. As a result, on June 2009, the Cheongju water purification plant became the first plant to receive 5-Star certification, the highest ranking certification, outside the North American region from AWWA (American Waterworks Association) The AWWA carried out a sponsored purification operational management capability certification policy evaluation. In 2010, 11 water purification plants achieved 5-Star standard, K-water will provide the world's best quality water to gain greater trust from customers by expanding the number of 5-Star standard water purification plants in the next.

### I Results of Improving Water Quality I



### I Goal of 5-Star Standard I



● **Improve the water reliability with an improvement in customer sense-type service and quality**

K-water is committed to its efforts to improve the reliability on water for people in systematic ways by learning the cause of not trusting tap-water and formulating improvement plans.

**Reasons for why citizens don't drink tap-water**

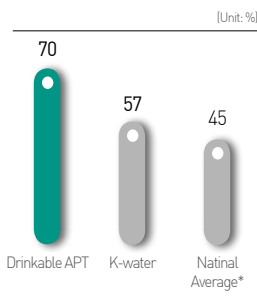
- Vague insecurity (42%), press report (6%), rust (11%), odor (22%), Bad water taste (12%), and others (7%)

**Plan to enhance reliability**

- Quality confirmation system, Tap water-drinking apartment, Customer Monitor
  - Providing prompt water quality information
  - Improvement of Langelier Index for rusty water control

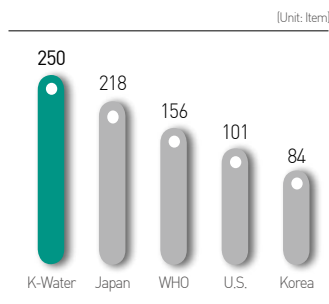
In order to ease the “vague instability on tap-water” as the biggest reason for not drinking tap-water, K-water has undertaken diverse improvement activities of customers’ perception in “introducing tap-water drinking apartment”, “tap-water quality certification system operation” and others, and it has accomplished tap-water drinking rate of 70% at the two apartments committed to drink tap-water in Nonsan and Jeongeup (2 complex units, 1,400 households) in 2010. In addition, the water quality test categories have been expanded to 250 categories, much more strengthened than 84 national standard water quality test categories for sustained management. Furthermore, K-water discloses comprehensive water quality information on tap-water production to the supply process in real time on Internet. With such an effort, K-water has acquired the highest score (96 points) ever in history with respect to the ‘tap-water reliability’ part’ to evaluate the customer satisfaction in public enterprises as hosted by the Ministry of Strategy and Finance in 2010

**I Drinking rate of tap-water I**



\* Source: 2011's Ministry of Environment

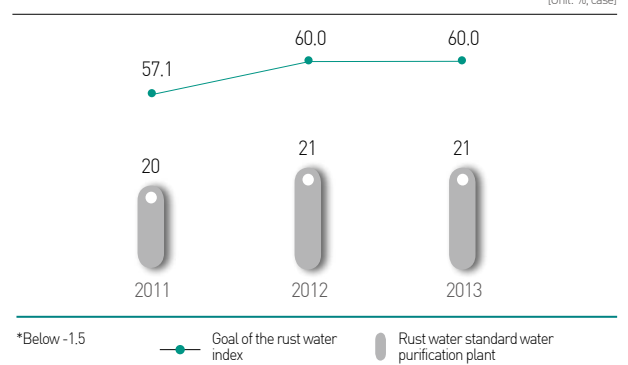
**I Analysis items of tap-water I**



In addition, in order to produce tap-water without any rust water, K-water has set the water quality goal for the rust water index as the first of its case in Korea with the outcome management. In 2010, 17 nationwide water purification plants have accomplished the goal in the rust water index. In the future, K-water plans to continuously increase the water purification plants with the accomplishment of a rust water index goal by expanding the rust

water index improvement businesses in a way of supplying high quality tap-water to customers with the minimal rust water in the supply process.

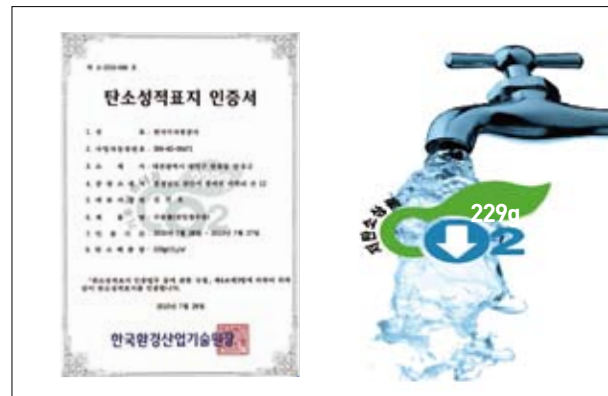
**I Goal of the rust water index \* I**



※ **Langelier Index**

This is the representative index to display the corrosion of water pipes, and for LCI<math>-1.5</math>, it indirectly displays that there almost no rust water occurred.

● **Acquiring the “certification for tap-water low carbon product” for the first time as a water company**



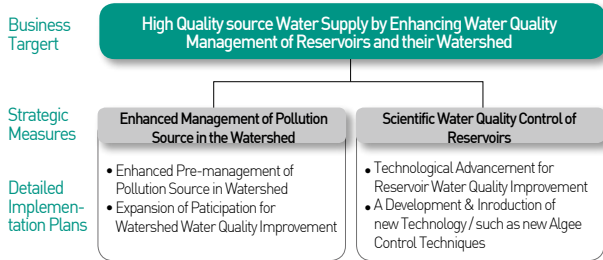
Carbon Labeling Certificate

The Carbon Labeling Certificate System is a system that marks the discharge volume of carbon dioxide generated from all processes of production, transportation, distribution, use, disposition and others. K-water has acquired “(phase 1) carbon discharge volume certification (188g/m<sup>3</sup>/measurement)” on the water of the Cheongju water purification plant in 2009 and it acquired the “(phase 2) low carbon product (successful reduction of 5% of CO<sub>2</sub>) certification” in 2010. In addition, K-water has acquired “(phase 1) carbon discharge volume certification” for 7 additional plants in 2010, and it plans to expand the ‘carbon discharge volume certification’ for all multi-regional water treatment plant of K-water by 2012 in a way of improving all processing for water production in low carbon environmentally-friendly ways.

## Source Water Quality Improvement

Clean tap water comes from clean source water. We supply high quality source water through the scientific management of reservoirs and the watershed.

### | Implementation System for Water Quality Management of Reservoirs & their Watershed |



#### ● Strengthen Management of Pollution Source in Watershed

Typhoons and concentrated heavy rains induce large quantities of soil and flood debris to flow into reservoirs, causing long term high turbid water phenomena and water pollution. To overcome the insufficiency of water quality control after the pollutants enter into reservoirs, joint efforts with organization concerned such as pre-inspection and preventive measures for the pollutant sources are being taken. As a fundamental measure, an integrated turbid water prevention plan for the drainage sections of the 5 major river watersheds was established. And for the better management of pollutant emissions source, "Dam's Pollution Source Information Management System" was established based on IT & GIS technology.

#### ● Expanding Participation to Improve the Water Quality in the Watershed

Efforts to participate in the business for water quality improvement in the watershed area, such as the ecological wetland development business which is being implemented by K-water, are being taken to reduce pollution sources in the watershed area. K-water established an integrated management platform for the management of domestic Efforts to participate in the business for water quality improvement in the watershed area, such as the ecological wetland development business which is being

implemented by K-water, are being taken to reduce pollution sources in the watershed area. K-water established an integrated management platform for the management of domestic sewage and livestock waste water, which are the main sources of the dam's water pollution. K-water is constructing 8 waste water treatment facilities and operates 102 facilities.

#### ● Technological Advancement in Water Quality Management and Control of Dam Reservoirs

For the water quality management of the dam reservoirs, it is necessary to scientifically forecast the future quality of water. However, since the dam reservoirs are huge, and there are diverse factors affecting each reservoir water quality including weather factors, it is very difficult to identify the exact causes & influences to water quality, making it imperative to use water quality forecast modeling techniques. For more rational decision making and for the application of water quality improvement technologies, 3 dimensional water quality forecasting technologies are to be used, which is more advanced and accurate rather than 2 dimensional models. The 3 dimensional forecast technologies were applied to a total of 5 dams, 1 trial dam in 2009 and 4 dams in 2010. K-water has a plan to apply the 3 dimensional Hydrodynamic Water Quality Model to all the dam reservoirs.

#### ● Efficient Algae Control Technology Adoption

During the summer, the eutrophication of reservoirs and rivers result in water pollution and purification treatment obstacles. Various water quality improvement facilities have been adapted to control algae bloom such as curtain weir (inflow current prevention layer), water circulation systems (aeration facilities) and selective intake equipment. To enhance operational efficiency, diverse research is being implemented such as efficiency analysis & the establishment of operational guidelines for each technique. In particular, K-water has established the guidelines for design, operation and management for scientific and efficient installation and operation for the first time in Korea and the design program has been applied for patent in 2010.

●●● FOCUS

### Forecasting and preventive water quality management through '3-D repair and water quality model operation system'

The dam reservoir which is one of the major water resources is exposed to direct influence from pollutants and turbid water in the upper stream, changing the water quality. K-water forecasts such water quality change scientifically and has developed the 3-dimensional operation system for water quality management of dam reservoir and structured to link to the IT environment of K-water simultaneously. Through this system, it is facilitated in the turbid water movement and the forecasting of the discharge in the lower basin of the dam reservoir following the 4-river restoration occurrence forecasting and the inflow of dirt water into the dam.



A close-up photograph of a bamboo spout pouring clear water into a wooden bowl. The background is a soft-focus green landscape. The text 'Water is mercy' is overlaid on the right side of the image.

## Water is mercy

We think about the 'neighborhood' rather 'me' and 'everybody' rather 'neighborhood'.

We pursue the 'world in happiness for everybody together with nature' than 'the world of human satisfaction'.

K-water will be involved in such beautiful travel to change the world for the society of working together and sharing the dream.

62\_Respecting Human Rights & Diversity / 64\_Fostering Global Human Resources

66\_Great Work Place / 68\_Social Contribution Activities

70\_Activities of K-water Volunteers

# CHALLENGES

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## GREEN Society

# Respecting Human Rights & Diversity

K-water is taking the lead in protecting human rights & interests by protecting social minorities and respecting diversity.

### ● Efforts to Protect Human Rights

K-water is protecting the rights of minorities within the corporation, while maintaining a policy of solving problems faced by employees & executives. Diverse policies such as programs to expand employment opportunities, maintain gender equality and protect workers during pregnancies are being initiated to protect the rights of minorities such as the disabled, female employees and contract workers. A Gender Equality Department has been established within the labor union, and efforts are being taken to provide the same benefits to contract workers as regular employees. Human rights training courses are mainly carried-out to protect the rights of minorities. The training courses mainly consist of company-wide sexual harassment prevention training and personal information protection training courses. Human rights training courses will be expanded to cover other areas. By guaranteeing the right to form collective agreements and initiate collective bargaining, there is no potential for rights to be infringed upon at any of K-water's work-sites.

### ● Achieving Gender Equality

Since K-water announced Gender Equality regulations in 2004, discrimination factors in employment and promotion of female employees have been eliminated. At the same time, counseling for female employees faced with problems has been greatly promoted, and gender equality programs have been implemented by actively managing and supporting the female workforce through strengthened maternity protection. The basic salary is the same for male and female employees in similar positions and for those that have entered the corporation in the same year. Promotions and compensations have also been equally provided to male and female employees.

As of December 2010, there were 423 female employees, comprising 10.2% of the total work force at K-water. The number of female managers is increasingly growing in numbers. At the end of 2010, there were a total of 27 female employees in managerial positions: 2 directors (level 2) and 25 managers (level 3). In 2010, 18% of the new recruits were females. In accordance with article 17 of the Framework Act on Women's Development

and enforcement ordinance article 27-2 of the same act, a sexual harassment prevention training program is held once a year and the results of the training program are reported to the Ministry of Gender Equality. To prevent any decreases in labor productivity at the worksites, a member from each department is required to complete a cyber training course once a year to disseminate the contents of the training program to his/her department.

### ● Handling Employee Problems

Employee problems are solved by operating a problem counseling window at all times within the HR-Bank (An Integrated Human Resource Management System). The utilization rate of the problem counseling window and face-to-face counseling to solve problems faced by employees, with 56 cases being solved in 2010. Unsolved cases are continuously evaluated and considered at a later date.

#### | Status of Employee Problems Solved |

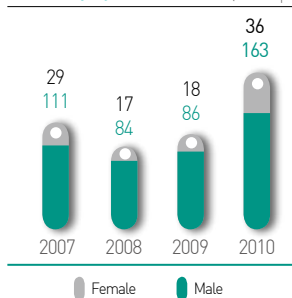
Category	2007	2008	2009	2010
Total Number of Problem Cases	45	39	98	78
Cases Solved	35	28	67	56
% of Cases Solved	77.8%	71.8%	68.4%	71.8%

### ● Further steps to Protect Personal Information

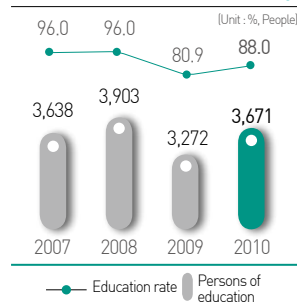
K-water established infrastructures and regularly holds information security enhancement training courses to protect personal information. In regards to information provided by K-water, the collection of personal information is minimized. By utilizing i-Pin (Internet Personal Identification Number) rather than the personal registration number on the company's homepage, discretion is maintained in protecting personal information. Personal information is systematically managed by establishing personal information protection standards.

To improve the awareness about the importance of personal information and the seriousness of the potential damages it can cause, and to emphasize the discretion required when providing information, cases of actual information leakages and personal information infringement prevention training courses are held regularly for new employees, external trainees, information security personnel and relevant personnel at cooperative firms. In addition, K-water has operated the personal information disclose checking solution and personal information disconnection system, and in particular, it has encrypted 240,000 cases of personnel information available in the regional waterworks information system to pay full attention to the protection of personal information of customers.

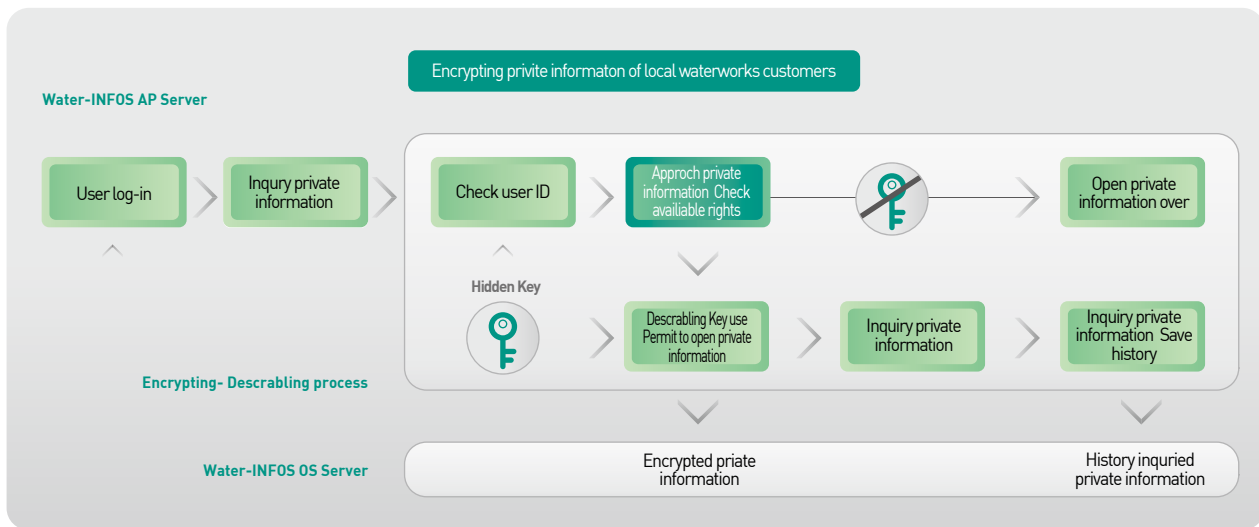
#### | New Employees Hired | (Unit: People)



#### | Sexual Harassment Preventive Training | (Unit: %, People)



**10.2%** Total female rate in officials



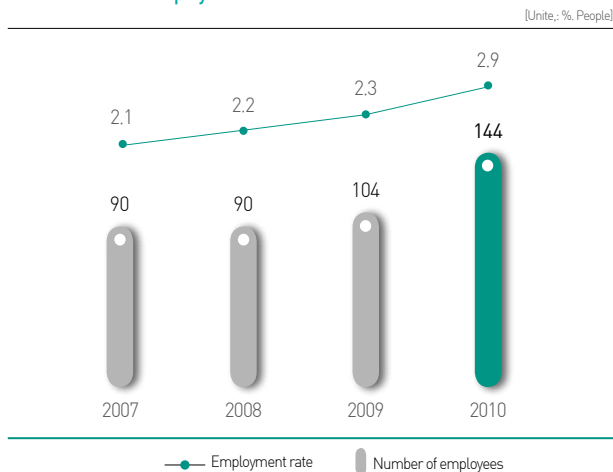
### ● Expanding Employment Opportunities for the Disabled

A policy to provide additional points to the disabled has been adopted when hiring employees. In regards to testing, depending on the level of the disability, an additional 3-5% points are added to applicants who have a disability. For those employees registered as having a disability, 3 days of paid leave and gifts of encouragement are provided around disability day. Various convenience facilities have been installed for the disabled, which include parking zones, elevators, rest rooms, stairways and roadways. As the disabled employment rate was 2.9% (144 employees) in 2010, it has increased over the last 5 years.

### ● Maternity Protection Program

A breast feeding area and female employee rest areas have been secured within the head office, and a corporate child care center has been established to assist female employees during maternity. The child care center has been expanded, while existing facilities have been remodeled to help alleviate the burden of raising their children, and to create harmony between work and family life. Diverse maternity protection programs are being carried-out such as the child care temporary leave and selective child care work time reduction policy. Breast pump support has also been expanded for female breast feeding employees.

### I Annual Disabled Employment Status I



- **Operating a Child Care Center within the Company:** Water Love Children's House

- **Every Week Wednesday, Family Day (Childcare Day)**

- **Adopting a Joint Spouse Leave of Absence Policy**

- Conditions for Leave of Absence: If the Spouse is Working Overseas for Over a Year, Training, or Joint Leave of Absence

- Leave of Absence Period: Once for Two Years

- **Improved Childcare Leave of Absence Policy**

- For employees with Children Younger than 3 Years Old

- **Childbirth Encouragement Support**

- Payment of Childbirth Encouragement Support, Work Circulation Exceptions for Pregnant Employees

- Installation of a Breast Feeding Facility, Pregnant Women Only Parking Zone

- Increase Miscarriage / Stillbirth Leave: Provide Sufficient Time to Physically / Mentally Recover

## Fostering Global Human Resources

To become the world's best integrated water service corporation, K-water is fostering global human resources by concentrating on its corporate-wide competencies.

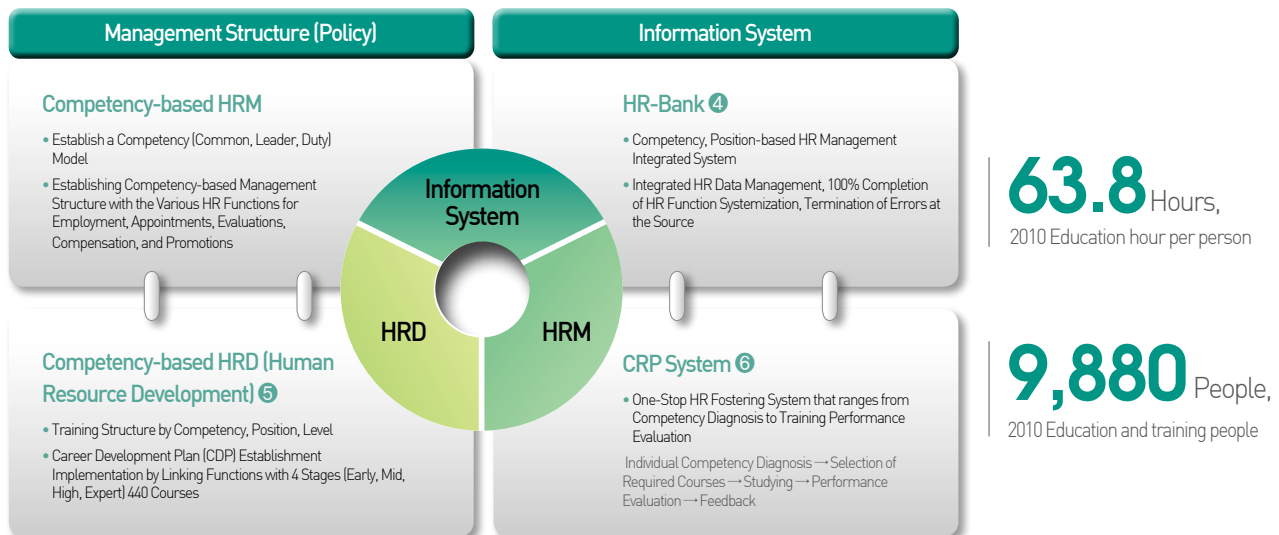
### ● Global Human Resource Roadmap

As K-water's core partner in achieving its visions and strategies, employees' functions are aligned based on competencies and performances. To achieve this, K-water is securing global competitiveness for its personnel resources.



### ● Competency-based HR Management & Information System

K-water established a competency-based human resource management system that has helped to develop a competency model (Common, Leader, Duty). A competency-based training system is being utilized to enhance current competency levels by identifying required competencies to generate performance. This type of human resource management cuts off any error from the on-set by systemizing and operating 100% of all functions in personnel affairs with the integrated management of human resource data through the HR-Bank (An Integrated Human Resource Management System).





### ● Capability & Performance-based Compensation & HR Management

The monthly salary of new employees is set at 205% of the minimum wage in accordance to the government's public enterprise advancement policy, and all employees and executives are evaluated on performance regularly. In the case of executives, compensation is based on performance in accordance to the management contract signed with the President. As the executives are paid annual salaries, level 1 executive's compensation is based on the department's evaluation, while level 2 executives are compensated on individual MBO (Management by Objectives) evaluations. As for level 3 or below for general employees, performance compensation is based on the department's evaluation. In addition, to provide greater competency development opportunities through diverse work careers, a policy enabling employees to exchange functions, especially with employees in the administration and technology areas.

### ● Employee & Executive Career Development

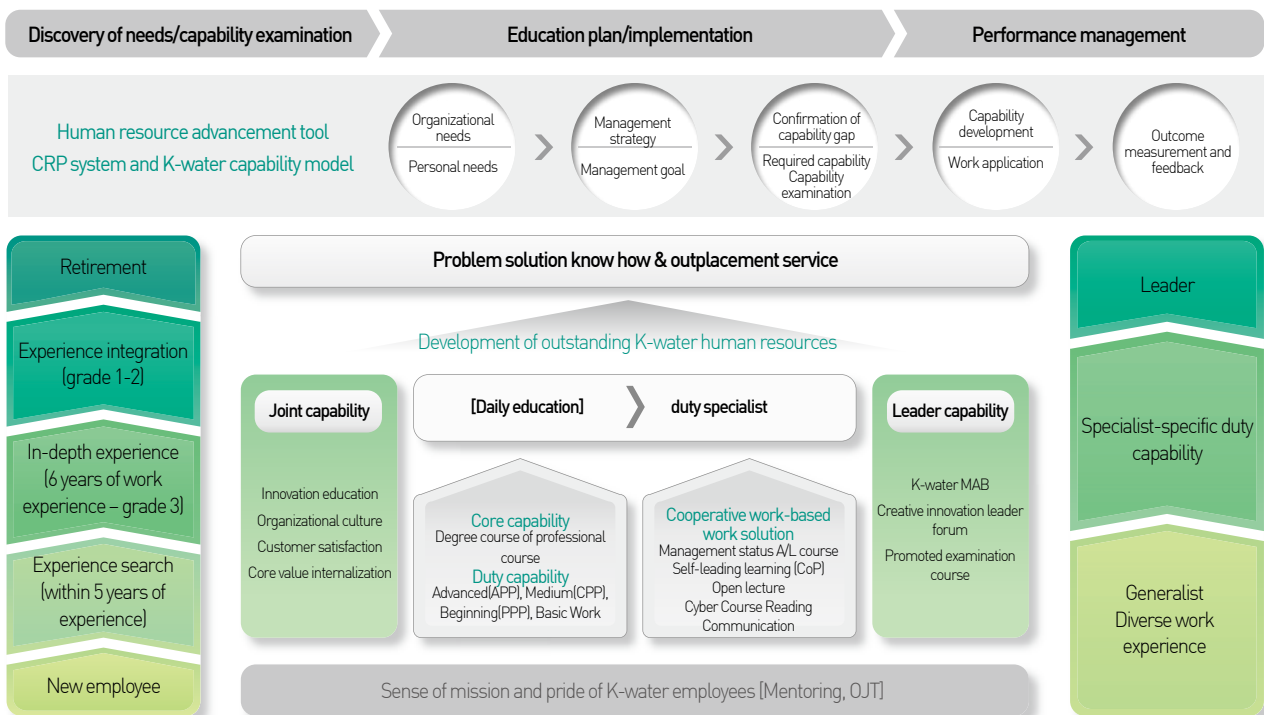
Since 2003, K-water established and operates a CRP (Competency Reinforcement Plan) system to help employees & executives in their career development. The CRP system helps in providing a balanced career development plan by appropriately reflecting the organizational and individual needs. Starting in 2010, selective learning for employees & executives is being strengthened, while various programs to enhance training effectiveness are being implemented, which includes 'Module based Courses,' and the 'Opening of All Training Courses to Employees & Executives.'

### ● Fostering Core K-water Professional Personnel

To secure global competitiveness by fostering professional personnel, in addition to the 2008 'K-water Technical Expertise Course,' the 'K-water Management Professional Course' was opened in 2011. This is to foster professional personnel by sector and to implement K-water's maintenance strategy. Based on K-water's management strategies and the technology roadmap, 7 professional training sectors were selected, including 'Tariff Planning & Demand Management.' Through over 360 hours of concentrated training, K-water is currently fostering 70 personnel that are securing professional knowledge equivalent to a masters' degree.

### ● Fostering Strategic Leaders

By adopting a unique systematic leader fostering course, the 'Creative Innovation Leader Forum' in 2010, K-water initiated a 15 week strategic leadership enhancement program targeting towards 80 talented personnel in all work functions. With an objective of enhancing implementation capabilities through communications and consensus building capabilities, this course provides diverse learning activities (workshops, seminars, knowledge training) such as leader competency assessment and coaching. The course also allows for the sharing of ideas through discussions with management, and acts as a Think Tank through discussions.



## Great Work Place

K-water has strengthened the diverse welfare program operation and collaborated labor and management relationship for improving the quality of life and harmony with work thereof.

### ● Promoting Employee & Executive Welfare

Due to the characteristics of the waterworks and water resource business, K-water's regional headquarters and management offices are scattered all across the country. To solve housing problems for employees that have been transferred to different areas due to work, employees are provided with support in terms of living quarters and rental homes. Parts of a home purchase loan are provided for to assist in purchasing a private home to ensure stable housing and living conditions. K-water received the Family Friendly Corporation Certification on November 17, 2009 by operating family friendly welfare policies and programs such as recreational facility accessibility to all family members, cultural & arts experiencing opportunities, writing classrooms & English camps for employees' children. And it has undertaken active activities as a member of family friendly forum as supervised by the Ministry of Gender Equality & Family

### ● Voluntary Learning Structure

K-water is helping employees continuously upgrade their capabilities by providing diverse training programs. A representative program is the Competency Reinforcement Plan (CRP) which helps individual employees to enhance expertise in their specialized work functions on their own. The CRP is a 'T-shaped' personnel development concept. A 'Tshaped' employee refers to an employee that is not only specialized in one's traditional sector, but is also well-versed in terms of knowledge and insight in adjoining areas around the employee. It is a program that enables employees to acquire in depth knowledge in one area through expert training for a certain period of time when first entering the corporation. Once the employee reaches a managerial position, the employee is allowed to participate in

training to expand his/her knowledge in a field that is relevant to the overall corporation.

### ● Welfare Safety

K-water is creating a Great Work Place (GWP: Great Work Place ) for healthy people. The results of the health examination in 2010, showed that 66.0% of employees were classified as healthy (class A, B ), while 34% were classified as those having comments on their health (Class C2, D2). In comparison to the previous year, class CAPABILITY group increased by 1.7%p. However, among those examined, the prevalence rate, which refers to the ratio of those diagnosed with a disease increased from 5.9% in 2009 to 6.4% in 2010. In regards to this, to prevent adult diseases from occurring in healthy patients and to manage the health of employees on the health black list and employees with diseases, a non-smoking program and an obesity clinic were initiated, receiving great reviews from employees. In 2011, an integrated health management system was established for continuous and systematic health management and it operates the obesity management program and physical therapy class by visiting work places where the on-site operation and health management are insufficient for no smoking and obesity classes in a way of realizing better work place.

### ● Structuring advanced labor and management culture

Founded in 1987, the labor union is subject for subscription by employees of grade 3 or lower rank and all employees become a member upon getting the employment in the company as the Union Shop system. As of March 2011, 81.2% of our entire employees or 3,433 employees are members. By expanding the information sharing between labor and management with

#### | Health Promotion and Integrated Operational Program |

Category	Contents	Results
• Health Management System	• Individual Health Management 100% Data Based	• Provide Real Time Health Management Information & Professional Consultation
• General Health Inspection (Physical) Policy	• Financial Support for Health Check-ups	• 2010 Early Cancer Diagnosis: 16 Cases
• Hazardous Site Health Management Policy (11 sites included Water Analysis Center)	• Work environment m4 • Implementing special health examination	• Laboratory Work Environment Evaluation • Special Health Check-ups initiated for 79 Laboratory Employees
• Non-smoking Program	• Implementation Period: July- August 2010 • Participation Personnel: 24	• Successful Personnel: 16 (67%) ⇒ 3 Months After-management (113 Successful in Smoking Abstinence for 4 Years)
• Diabetes Clinic	• Implementation Period: July- September 2010 • Participation Personnel: 51	• Successful Personnel : 6 (Average -7% Body Fat Reduction)
• Before service in health	• Support for pre-material care examination • Provision of facilities for female employee's resting room and baby-feeding room (support with baby feeder)	• Minimizing work absence from giving birth • Encouraging breast-feeding

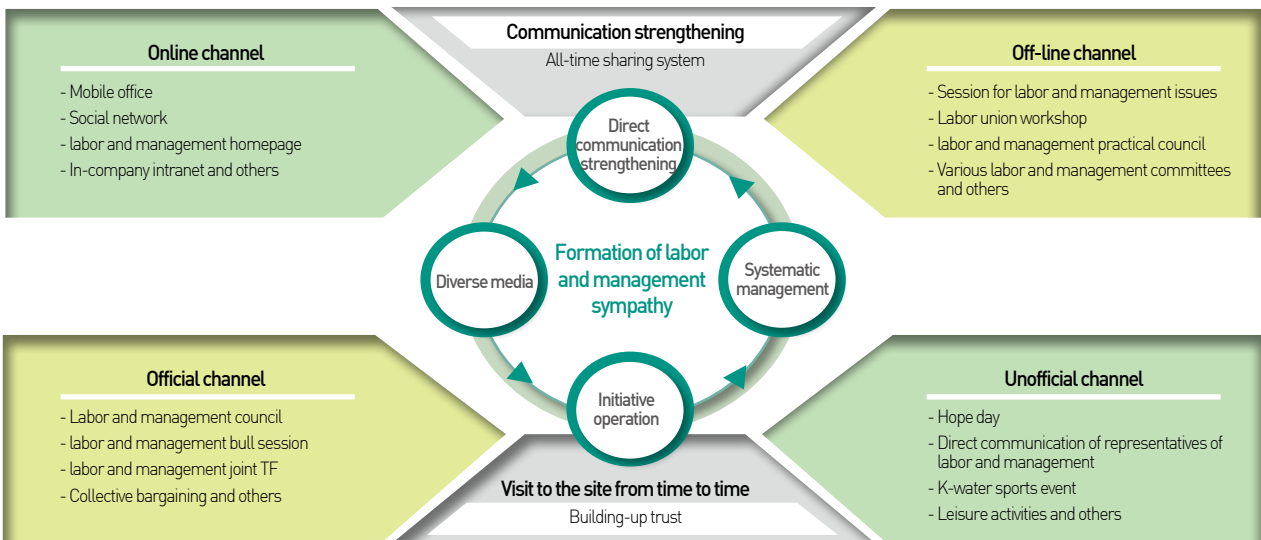
the facilitation of system improvement, management session, company-wide cooperative system, it has formed the company-wide communication. The joint undertaking team for the labor and management as the unique labor and management cooperative system has organized and operated the practical team for system improvement, such as, personnel organization, organizational culture, welfare system, integrated water facilities operation and others for solving the current management issues since 2006, resulting in preparing the improvement plan and undertaking step-by-step cases. In 2010, it entered into the social contribution declaration ceremony for labor and management in order to facilitate the social contribution of the company and established the new paradigm of labor union activities in 'finding missing children by facilitating bottled water', 'entering into a purchase contract for gift certificates in traditional market' and others. In particular, after completing the successful labor and management

agreement on expanding the salary system for all grades in 2009, the most advanced salary model has been settled as SOC-type public enterprises as of 2011 to work as a motivation for voluntary efforts of employees through competency and performance-oriented compensation system for improving work efficiency. K-water abides by the basic labor law article 7, (Prohibition of forced labor), and tries to guarantee and improve the legal working conditions of laborers.

**81.2** %, Labor Participation Rate (March 2011)

**0** Case, 2010 Cases of Labor Disputes

**| Strengthen Cooperative Labor / Management Relations |**



**FOCUS**

**Accomplishment of missions in national policy businesses through win-win labor and management**

K-water has undertaken social contribution activities jointly for labor and management, including 'finding missing children by facilitating bottled water', 'entering into purchase contract for gift certificates in traditional markets' and others by way of realizing the advance labor and management culture through structuring the new paradigm in the labor union. Also, it has successfully undertaken major national policy projects in the 4-river restoration b1, processing goal accomplishment and others with the combined efforts of labor and management through 'celebration to hope for successful national policy projects' and 'declaration of labor and management unity on national policy project'. As a labor union for a public enterprise, the labor and management have become a unity for cooperation through the conversion of a new paradigm in social contribution activities and others as it was reported as an outstanding case in 13 press media, including Yonhap News.

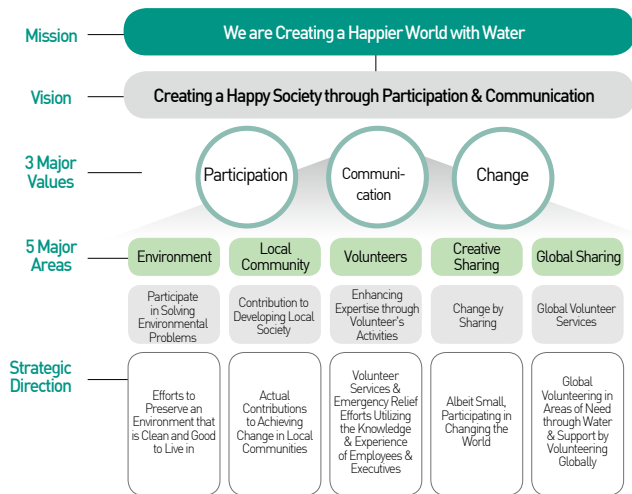
# Social Contribution Activities

K-water will lead the way in making the world happier with the expansion of fair society realization, sharing and service culture.

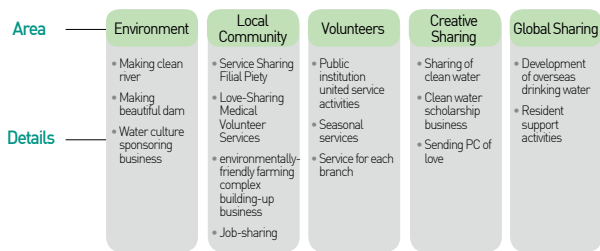
## ● Implementing Social Contribution Activities Strategically

K-water established its 3 major values, 5 major core areas and strategic direction uniquely to K-water's social contribution activities to fulfill its mission of creating a "Happier World with Water." K-water is also implementing its social contribution activities strategically based on choice and concentration strategies to achieve sustainable corporate development and fulfill its social responsibilities. Utilizing its business characteristics to its fullest, K-water selected its social contribution activity programs. Through the participation in solving environmental problems by expanding its activity scope to include water, rivers and the environment, K-water is contributing to the development of the nation and local communities.

### | Social Contribution Implementation Strategy |



### | Strategy implementing task |



## ● Participation in finding solutions to improve the environment

K-water has built clean rivers with ally river maintenance, ecology protection and others, built up environment-friendly resting spaces around dams, and operated Water Culture Centers and others through the dam

beautifying business. In addition, it has implemented water tours and held water culture events in a way of broadly informing the value of water and making it a clean and clear environment.

Making a clean river	Making a beautiful dam	Sponsoring Water culture
Clearing of river and ecology protection	Making environmentally-friendly dams	Hosting and support of water culture event
Building up the clean underground water environment	Operation of Water Culture Center	Implementing Water-Tour
Supporting environment council	Building up the environment-friendly resting space	Hosting water-love open content

- Making a clean river : The maintenance project has been made for the lower streams of the rivers with 22 dams. The diverse efforts have been unfolded to make a clean river such as the unleashing 1159 thousand native fries, and supplying of 76,663km<sup>3</sup> of water for the environment.

- Creating a beautiful dam: The rest relaxation areas are provided to the residents by establishing environmentally-friendly spaces at 23 dams and operating the water culture halls in 13 multi-purpose dams. The dam arranging project has been expanded to 19 dam water areas by entering into an agreement with the Korea Forest Service until 2010. The rape flowers were seeded utilizing the flood controlling area in 8 dams of 232,197 m<sup>2</sup> in 2010 and it provided environmentally-friendly areas for the people.

- Water culture sponsor : The high grade culture performances were provided for the residents near the dams and the clean water music concert and sponsoring local culture events have been performed for the activation of the local economy. Boat racing has been fostered and supported from 2003. The interest on the value of the water of the laymen has been improved by experiencing the water-tour for 20,087 people in 498 associations and holding the water-love public competition exhibition in 2010.

## ● Contribution to the advancement of local communities

K-water has operated Filial Duty Welfare Centers for the elderly of 65 years or older for the welfare improvement of dam areas and has implemented medical service activities, building environmentally-friendly agriculture complexes and job-sharing business for promoting health and income for the local residents.

Service Sharing Filiation Piety	Love-Sharing Medical Volunteer Services	Building up the environment-friendly agriculture complex	Job-sharing Business
Operation of Filial Duty Welfare Center Home nursing assistant service	Providing medical service for residents in dam areas	Building up the environment-friendly agriculture complex around dam areas and expanding the sales route for farm products	Priority hiring for housing repair human resource and others for the residents in dam areas

- Service Sharing Filiation Piety: Filial Duty Welfare Center were established to improve the welfare of the elderly around dam areas and are operated in 8 places, with Hapcheon Dam in 2006 and Juam Dam and Daecheong Dam in 2010, and those areas have social workers, physical therapists, therapy assistants and others to provide physical therapy, free meal service, bathing and others as well as support for



the elderly, home nursing assistant support, and Filial Duty in mobile welfare, and it has implemented cleaning, laundry, health assistance and others for the neglected people around the dam areas.

- **Love-Sharing Medical Volunteer Services:** K-water has entered into an agreement with the Korea Open Doctors Society, a medical service specialty organization, since 2009 and implemented 'K-water Love-Sharing Medical Volunteer Services' to place efforts to promote health for residents in dam areas where medical services are limited and citizens are vulnerable. After implementing on 2-dam areas in 2009 as a pilot basis, it has expanded and been implemented for 3,500 residents in 10 different dam areas, including, Namgang Dam and others, in 2010.

- **Environment-friendly Agricultural Complexes:** With the designation of the water protection zone, K-water has constructed environmentally-friendly agricultural complexes in the upper parts dams where there is a limitation in crop cultivation to protect the water quality while contributing to the increase of income for local residents and the facilitation of regional economy. In 2010, with the environmentally-friendly farming technology education and certification procedure instruction, K-water has made efforts to increase the income for local residents through the improvement of farming product competitiveness by farming product branding with packing support and local festivals, farming product sales premises and others for building up the environmentally-friendly agricultural complex for 1,396,000m<sup>2</sup> and expanding the sales of environmentally-friendly farming products.

- **Job-sharing Business:** K-water has implemented the job-sharing business that provides jobs and the source of income to secure stable living for youth and senior classes in dam areas by hiring 223 local residents as home nursing assistants in 2010 by way of helping out the single elderly and the disabled residents as well as hiring 225 rehab workers to implement housing repairs and others for improving the residential environment in dam areas.

### ● Change through creative sharing

K-water has implemented the Clean Water Sharing business to make a world without water shortage by providing a clean and safe water system, and it also has implemented the Clean Water Scholarship Business for students around dam areas. In addition, for narrowing the information gap of the lower income class, it has donated PC of love.

Clean water sharing	Clean water purification plant scholarship business	Sending PC of love
Water of hope: Support of water for elementary schools	Native English teacher and English camp	Support of PC for rehabilitation for low income families and social welfare facilities organizations
Water of love: Desalination and bottle water support	Support of scholarship, meal service, and study room after school	

- **Clean water sharing:** K-water has made efforts to make a world without water shortage and between the world with water by undertaking the operation and support in operation and management with circular inspection and regular water quality tests for water supply facilities for 71 elementary schools and secondary schools that use underground water and the support of 40 desalination facilities for 9 cities and counties that are suffering from chronic water shortage in 2010 as a way of supporting for clean and safe water service in remote areas and island areas.

- **Clean water scholarship business:** In order to minimize the education gap of

the dam area and the urban area, K-water has provided native speaker language teachers to benefit 4,424 students in 97 schools and 21 dams in 2010, and with its English camp support, 594 students in 100 schools under 6 divisions participated in the camp. In addition, it has paid scholarships and meal service payments of 3.2 billion won to 6,865 students around the dam areas, and it has placed efforts on the improvement of the learning capability of students around the dam area by supporting learning materials and supplies, books and operation of learning room after school for remote distance schools.

- **PCsharing with love:** From 2006, K-water has maintained aged PCs through its Sharing PC of Love business to provide them to low income class families and social welfare facility organizations and it donated 713 PCs in 2010.

### ● K-water Volunteers

Established in July of 2004, K-water Volunteers Group has 4,128 volunteers, or 99% of the total employees as of the end of 2010, participating in 99 volunteer clubs. A total of 54,000 hours were spent on volunteer activities (13 hours per employee). Through the "Love System" a social volunteer management system, K-water is providing systematic support to the employees & executives of the Water Love Volunteers Group. With such efforts, K-water was awarded with the Commendation of the Minister of Public Administration and Security in recognition of its contribution to the local community for its voluntary service activities in 2010.

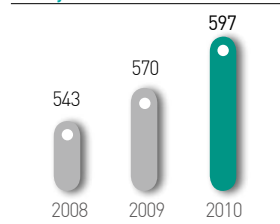
### ● Solving water problems in the global village through global sharing initiatives

With the theme of its activities in 'Making a happier world with water together with K-water', K-water has undertaken drinking water development in Tajikistan in 2006, Building 'Ger (tent house)' for the poverty stricken in Mongolia and 'happy well-making' in Cambodia in 2007, installing 8 drinking facilities in 4 villages in HoaBin Province in Vietnam in 2008, the installation of 4 drinking tube wells in remote distanced schools in the State of Pampangga and Quezon City, the Philippines and the installation of 9 water facilities in 5 villages in the Bolikhamxay Sigh and Luang prabang region of Laos in 2009. In 2010, K-water has actively participated in global water problem solutions as a global water specialty company by continuously implementing the drinking water development business for global people who are suffering from water, including the major village water development and poverty family livestock provision, repairing of building structures and others with installment of 50-ton water tanks in two villages of Vangvieng County, Vientiane State of Laos as well as the installation of a pipe route for 9km and others.

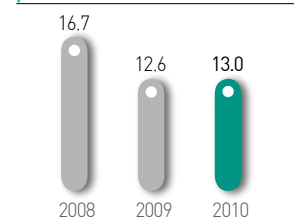
\* Detailed contents on social contribution activities of K-water can be confirmed from the K-water homepage (<http://www.kwater.or.kr>).

**54,000** Hours, 2010 Volunteer Activity Hours

I Invested amount for contributing to society I (Unit: KRW 100 million won)



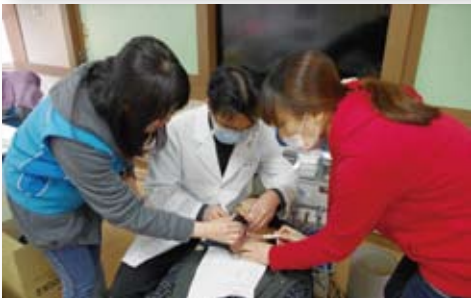
I Volunteer work hours per one person I (Unit:hr)



## Activities of K-water Volunteers

Happy society participating and communicating together with K-water

K-Water Volunteers have undertaken service activities to contribute to improving local communities and the lives of citizens throughout Korea. It delivers a little love and happiness to local communities with its diverse activities, including, helping needy neighborhoods, environment protection activities, disaster relief activities, contributions to local communities and others.





1	2	6	7
			8
3	5	9	12
4		10	
		11	13

1. Filial duty welfare center is full of laughter and affection
2. Love for songyeon - made with a daughter-in-law from overseas
3. K-water home nursing assistant acts as a limb for the elderly
4. Love sharing medical service to fix inconvenient areas
5. Clean water music concert to blow away the hot summer days with refreshing music
6. Coal of love delivered with devotion
7. Meal service assistant at a rehab center offers a great tasting lunch

8. 1-company 1-river environment cleaning campaign for clean river
9. Precious helping hands for busy farming village
10. Emergency water support to the drought and disaster areas
11. Serious English class with native speakers
12. Global love sharing (water pipeline installation activities)
13. Global love sharing (completion ceremony for water facilities)
14. Global love sharing (joint water installation for elementary schools)





74\_ Global Reporting Initiative (GRI) / 87\_ Financial Performance / 96\_ Positive & Negative Information / 97\_ GRI Report Index / 101\_ K-water KPI  
102\_ KMAR Verification Report / 104\_ ISO 26000 / 106\_ Code of Ethics Preamble, Environment-friendly Management Principles, Customer Charter  
Preamble, Mission Statement for Innovative Vision / 108\_ UN Global Compact / 109\_ Declaration Glossary





# PERFORMANCES

## To be an endless fountain of hope



A country enjoying the benefits from water.

A country with a growing national competitiveness and intelligence to water.

A country reborn again with good health and smartness.

Consequently, a happier world by means of water.

K-water draws such happiness in blue clarity.



● **Market Status** 

**Legal Minimum Wage Vs. New Employee Wage Ratio**

The monthly wage for entry level employees with a university degree (level 5) is 205% of the legal minimum wage.

**Local Purchasing Policy**

Purchasing is carried-out through the electronic purchasing system. However, to promote local purchasing by field offices, a maximum value amount was set, making it possible to contract construction or purchase merchandise locally.

**Local Hiring for Domestic & Overseas Project Sites**

In general, K-water ensures equal employment opportunities for all new employees, eliminating limitations on academic background, regionalism, and age. However, for local waterworks meter reading personnel and water project operators, K-water hires locally. Since initiating local waterworks consignments in 2004, as of the end of 2010, K-water hired 223 personnel locally. In addition, by hiring a total of 497 young interns from 2009 to 2010 we relieved the youth unemployment problems, contributing to the development of the local communities.

● **Indirect Economic Effects**

**Investments in SOC Facilities** 

K-water has contributed to the national economic advancement by investing a total of 5 trillion 564.4 billion won on SOC projects including 417.9 billion won on the facilities for water resource development in major policy businesses, including, z1 and Gyeongin Ara Waterway business along with new dam construction in Hantan-gang Dam, Youngju Dam and others, as well as the business to expand the water control capability of existing dams, 151.2 billion won on new and renewable energy facilities in Sihwa Tidal Power Generation, Sihwa Bangameori Wind Power Generation and others, 287.9 billion won on waterworks construction in waterworks facilities construction, water supply system adjusting businesses and others, and 946.3 billion won in new city construction and industrial complex development and others.

**Dam Environment Improvements and the Opening of the Water Cultural Center**

The construction of a new dam takes into consideration environmental factors from the beginning. However, since existing dam facilities tend to be worn-out and obsolete, they are not able to provide much support to the local economy. Considering this, K-water is establishing overall plans to improve the environment of existing dams, while substantially renovating the surrounding facilities. Some of these efforts include setting up observation decks, elevators and promenades. Water Cultural Centers are also either being newly constructed or renovated to create a resting area and cultural space for visitors.

**Supporting Environment-friendly Agriculture in Areas Adjacent to Dams**

K-water has implemented its support businesses continuously since 1990 for income increase and welfare promotion of residents in dam areas. In 2010, it has structured a total of 58.1 billion won for the resident support business for local support business, resident welfare, and learning capability improvement for improving the local environment an agriculture, livestock and fishery industry building up business. In particular, it enhances

resident satisfaction through the tailored support business for each household by providing native English speaker education for elementary school students, job-sharing businesses for youths and adults, operation of Filial Duty Welfare Center for promoting the senior welfare for reducing the gap between urban and rural areas.

	Items	Contents
Local Support	Income Enhancing Projects	• Agricultural, Stock Raising, Fishing Projects such as Farm Roads, Composts, Farming Facilities
	Projects to Create Foundations for Livelihood	• Living Environment Improvement Projects such as Medical Equipment, Town Centers, and Town Access Roads
Resident Support	Local citizen Livelihood Support Projects	• Medical Expense / Expert Healing Support, Electricity Expenses / Living Expense Support & Job Sharing Projects
	Child Raising Support Projects	• Child Raising Support such as Education through Native English speakers, Scholarships, & School Meal Expense Support
Other Support	Dam Reservoir Usage Fee Subsidy	• Providing a 50% Subsidy for Local Governments using Dam Reservoirs
	PR & Ancillary Projects	• Projects Reflecting the Dam's Characteristics such as Constructing Filial Piety Sharing Welfare Centers & Supporting Environment-friendly Farming

**Supporting Environmentally-friendly Agriculture in Areas Adjacent to Dams**

Fertilizers, pesticides, and soil improvement works utilized for farming activities in areas adjacent to dams are non-point source pollutants resulting in water pollution including eutrophication, and turbid water in reservoirs. Fertilizers and pesticides used for farming in areas adjacent to dams, and soil brought from other areas tend to directly seep into the reservoirs during floods, causing eutrophication and turbid water, which are representative non-point source pollutants causing water pollution. The 8,426,000km<sup>2</sup> of land that has been designated as farm land in the flood control land areas adjacent to dams are being encouraged to be converted into environment-friendly farm land. Through this conversion, pollution sources are minimized, helping preserve dam water quality. In return, K-water is helping farmers acquire environmentally-friendly certifications for their agricultural products, while helping enhance their income by securing sales channels. Farmers in areas adjacent to dams that are carrying out environmentally-friendly farming are cultivating potatoes, corn and other crops using organic methods and non-agricultural chemical methods. K-water is helping these farmers by providing environment-friendly farm equipment and natural compost depositories. In addition, to enable the agricultural products produced in these areas to acquire environmentally-friendly certification, through a technology support agreement with Agricultural Technology Centers of local governments, K-water is providing environmentally-friendly agricultural technology. To secure objectiveness in the credibility of agricultural products produced in these areas, K-water is providing support in inspecting agricultural products for residual agricultural chemicals and heavy metals, and in acquiring environmentally-friendly agricultural product (no or low agricultural chemicals) certifications. By 2012, the model for environmentally-friendly agricultural complexes will be expanded to cover all areas designated as farm land.

**| Eco-friendly Farming Implementation Status & Plans |**

Category	(Unit: thousand m <sup>2</sup> )					
	2007	2008	2009	2010	~2012	Total
Conversion Area (m <sup>2</sup> )	1,864	1,170	1,468	1,396	2,528	8,426



## Environment

### ● Materials

For detailed information on the quantity of source water used to produce water and materials such as purification chemicals that are used to purify water, refer to page 59, Water Life Cycle Assessment (LCA) Material Income & Expenditures. For details on purification and sewage sludge produced during the production process and the recycling of construction wastes, please refer to page 78.

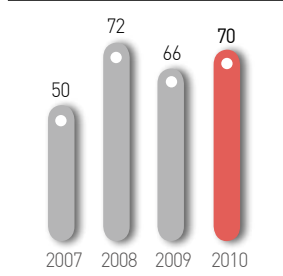
### ● Energy Saving

#### Energy Saving and Energy Consumption Amounts

Total energy consumed in 2010 totaled 10,142TJ, an increase of 5% compared to that of the previous year, while the energy was mostly used during the waterworks processes such as the intake and supply of water, and the operation of pumps in pumping plants. Direct energy consumed through diesel and gas was 70TJ, while indirect energy consumed through electricity stood at 10,072TJ.

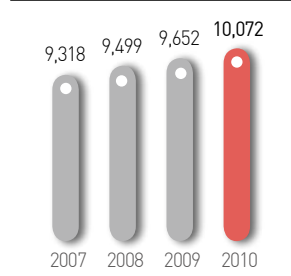
#### | Direct Energy Consumption |

(Unit: TJ)



#### | Indirect Energy Consumption |

(Unit: TJ)



### Energy Reduction Quantity

Energy savings contribute to reducing green house gases and water production costs. To convert to a high efficient energy consumption structure, equipment should be inspected and energy efficiency assessments should be carried-out during the design stage, while power unit costs should be managed carefully for existing facilities since power unit costs take up the largest portion in the waterworks expenses.

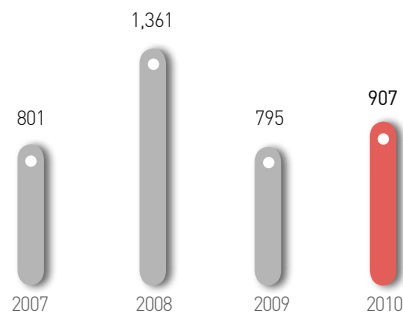
### Energy Efficiency Enhancement in Dams & Waterworks Facilities

To reduce green house gas emissions and counter the energy crisis due to recent oil price hikes, improvements are being made to enhance energy efficiencies by deciding on optimal pump specifications, and optimizing internal coating & pump operational scheduling. Power consumption and green house gas emissions are being reduced through the increase of local waterworks revenue water. By enhancing the performance of multipurpose dam hydropower plants, K-water is contributing to increasing the supply of clean energy domestically and effectively countering climate change.

Feasibility studies on the waterworks facility energy efficiency enhancement CDM projects were carried-out in 2010. In 2010, K-water plans to receive verification of its model projects from a feasibility verification organization, and in 2011, a registration from the UNFCCC will be requested (United Nations Framework Convention on Climate Change).

#### | Total Energy Reduction by Department |

(Unit: TJ)



#### | Energy Savings Implementation Plan & Performance |

<b>General Management Sector</b>	<ul style="list-style-type: none"> <li>• Energy Expense Reduction through Equipment Improvements (Lighting Equipment)</li> <li>• Operational Efficiency through Lighting &amp; Air Equipment Improvements</li> <li>• Energy Reduction through Rational Utilization of Electrical Appliances</li> <li>• Energy Consumption Total Amount Policy Management &amp; Energy Reduction Target Management</li> </ul>
<b>Water Supply Sector</b>	<ul style="list-style-type: none"> <li>• Develop &amp; Operate an Electricity Charge Calculation Program</li> <li>• Revise Optimal Electricity Rate Contracts for each Project Site</li> <li>• Apply &amp; Improve High Efficient Equipment such as Improving Capacity of Transformers</li> </ul>
<b>Dam Sector</b>	<ul style="list-style-type: none"> <li>• Equipment Improvement to Maintain a Load Power Factor over 95%</li> <li>• Target Establishment &amp; Management of Dam Power Consumption Rate &amp; Savings Rate</li> <li>• Expanding the Applications of New &amp; renewable energies</li> </ul>

#### | Energy Savings Implementation Performance |

- Improve Waterworks Power Unit Cost (2009: 0.3176kWh/m<sup>3</sup> → 2010: 0.3183kWh/m<sup>3</sup>)
- Power Generation Sector Energy Reduction → 3,614kWh/m<sup>3</sup>

### ● Water Usage

#### Water Sources Affected by Water Intake

K-water initiated the Gyungnam, Busan Area Multi-regional Waterworks Project to supply clean water to the Gyungnam, Busan Nakdong River main stream area where water conditions are vulnerable. Initially K-water had plans to supply water by developing the Namkang Dam water intake



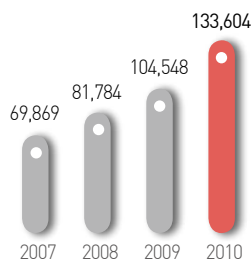
level and river bank filtration water. However, due to concerns over increasing the intake level, plans to secure a water source through utilizing surplus Namkang Dam water and river bank filtration water was revised and a feasibility test was contracted-out. The Daap intake facility located in Gwangyang City, Jeonnam, supplies natural and industrial water to the Gwangyang Port area by intaking water from the Seomjin River. To minimize the effect on the environment and damage from sea winds, sufficient water from the rivers was secured and an environmental impact survey initiated. Recently, as the Seomjin River's river mouth is converting into a sea, changes are occurring in the ecological environment such as ocean organisms inhabiting the river mouth. Surveys were carried-out as to the cause of the phenomena. Multiple factors, in addition to the Seomjin River water intake were the cause. Causes include a drop in the river bed due to rock extraction, an increase in the tide level due to the landfill of Kwangyang Bay, and Dam construction upstream. Through local citizens' suggestions, K-water will initiate impact surveys on the damages caused to the fishing industry due to the intake from Seomjin River and construction of Joan Dam. Continuous monitoring of the changes in environment will also be carried-out.

### Reusing & Recycling Water

Recycled waste water (gray water) is used in rest rooms and gardens at the head office. For customers using recycled waste water, a rate reduction (30% off of water rates) policy is applied to increase the use of recycled waste water and to establish a circulation-type society. In 2010, customers using recycled waste water increased by 28% compared to the previous year, resulting in a rate decrease of KRW 5.7billion won.

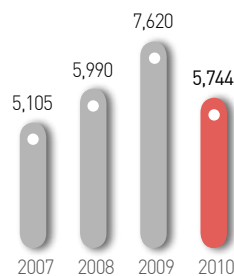
#### I Customer Recycled Waste Water Production Quantity I

(Unit: Thousand m<sup>3</sup>)



#### I Recycled Waste Water Rate Reduction Amount I

(Unit: Million won)



Please refer to page 101 for K-water's recycled waste water usage achievements.

※ The reduction amount rate following the recycled waste water usage is reduced from 100% in 2009 to 60% in 2010.

### Protection of Bio-diversity

Diverse activities are being implemented to protect bio-diversity which includes designing, constructing & operating environmentally-friendly water resource facilities, creating bio-diversity preservation facilities & space, and preserving organism's habitat environment & natural cultural treasures. Detailed information related to bio-diversity identification, continuous environmental monitoring of management plans & project areas, and identification of species in danger of extinction, can be found on pages 56-57.

### Green House Gas Emissions

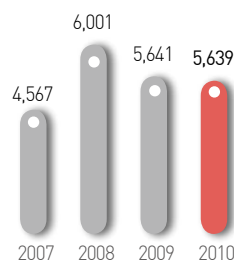
#### Total Green House Gas Emissions

Total green house gas emissions reached 527,639ton CO<sub>2</sub>, a 4.3% increase over the previous year. This was mainly due to the increase in power consumption stemming from an increase in water supply. In 2010, direct green house gas emissions from the usage of diesel fuel and gas increased to 5,639ton CO<sub>2</sub>, while indirect green house gas emissions from the use of electricity increased to 522,000ton CO<sub>2</sub> over the previous year from the previous year. In addition, indirect green house gas emissions from transportation of employees & executives to and from work, and business trips were 2,637ton CO<sub>2</sub> in 2010.<sup>1)</sup>

1) Applying the inventory system data that has completed with the third-party verification by applying the discharge coefficient following the instruction on greenhouse gas, energy goal management and operation as notified in March 2011.

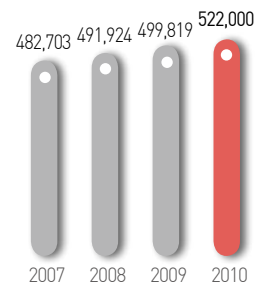
#### I Direct Carbon Dioxide Emissions I

(Unit: Ton, CO<sub>2</sub>eq)



#### I Indirect Carbon Dioxide Emissions I

(Unit: Ton, CO<sub>2</sub>eq)



※ Greenhouse gas re-calculation for each year following instruction on greenhouse gas, energy goal management and operation as notified in 2011 (source: K-water inventory system)

### Green House Gas Reduction Project & Performance

Refer to page 36 of the main text for details regarding K-water's CDM projects & performance.

### Quantity of Ozone Layer Destroying Substance & Air Pollution Substance Emissions

There are no processes in the production of water that emits ozone layer destroying substances such as Freon gas. There could be potential leakages from cooling facilities that contain Freon gas. To prevent this from happening, regular safety inspections are carried-out on all cooling facilities. At the same time, there are no production processes that directly emit air pollution substances at any of K-water's project sites. However, there could be air pollution substances emitted while using oil to operate the project sites and facilities. To minimize this, by reflecting this into each department's environmental target, the departments implement diverse activities to reduce the consumption of kerosene.

#### I 2010 Air Pollution Discharge Status I

(Unit: kg)

Particulate Matter	SOx	CO	HC	NOx
22	95	3,513	986	8,258



| 2010 Effects from Hazardous Material Spillage, Waste Material Treatment, Sewage Water |

Classification	Total	Waste concrete	Waste ascon	Waste tree and plant	Waste synthetic resin	Combined waste materials and others
Created quantity (tons)	371,194	225,726	97,469	12,345	1,169	34,485
Recycled quantity (tons)	355,446	224,508	97,469	9,780	194	23,495
Recycling ratio(%)	95.8	99.5	100.0	79.2	16.6	68.1

● Effects from Hazardous Material Spillage, Waste Material Treatment, Sewage Water

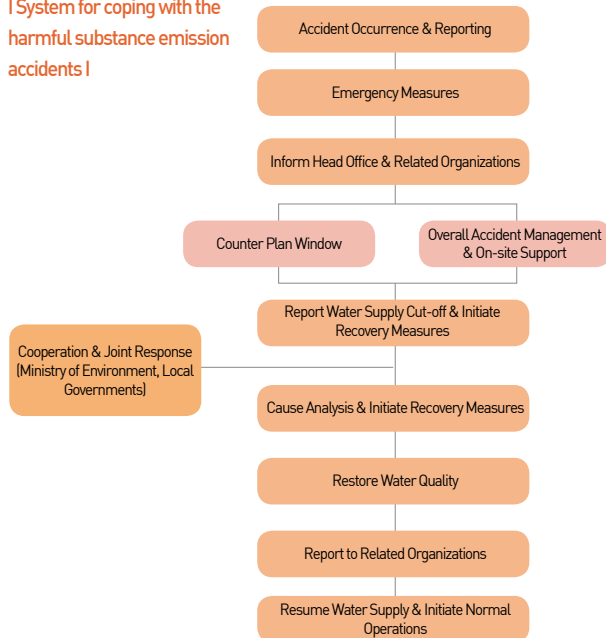
**Hazardous Material Discharge Management**

Hazardous materials such as waste oil and chemical substances discharged from the project sites can have a serious effect on the surrounding environment, bio-diversity and health of local citizens. All hazardous substances from K-water's project sites are strictly treated according to related regulations. As of now, there have been no cases of accidents due to any leakages of hazardous substances. However, to prepare for hazardous substance leakage accidents, K-water is enhancing its ability to take measures to counter potential accidents by establishing an accident manual and holding regular training activities.

**Waste Material Discharge Management**

As a result of the London Dumping Convention (1996) banning the dumping of waste materials into the ocean, there was an amendment of enforcement regulations in the Maritime Pollution Prevention Law (Ministry of Maritime Affairs & Fisheries Regulations No. 330 on February 21, 2006). As a result, disposing sludge from purification plants into oceans has been banned as of 2007. Since 2006, all sludge generated from purification plants has been recycled, and no sludge is exported.

| System for coping with the harmful substance emission accidents |



● Products & Services Environmental Impact Reduction Activities & Performance

K-water is continuously achieving environmental performance through a dynamic circulation process of P (Planning), D (Deed), C (Checking), and A (Amendment) that reflects the conditions of ISO14001. In 2010, 30 environmental targets in 10 categories were established. 99.1% of the targets were achieved.



| 2010 Environmental Management Performance |

<b>Environmentally-friendly Development &amp; Management</b>	2 cases of Design for Environment (DFE)
	27 cases of Environmental Impact Assessments by Projects
	9 Cases of Environmentally-friendly Development
	2 Cases of Environmentally-friendly Management of Facilities
	79.6% Achieved in Management of Revenue Water at Local Waterworks
<b>Supplying Clean Water</b>	8 cases of Carbon Labeling Certificate System (Cheongju, Milyang, Cheonan, Seokseong, Buan, Suji, Wabu, and Deokjeong)
	KRW 66.4 billion (5%) Environmental Investment
	Improvement in the Quality of Dam Water (Average COD 2.8mg/L)
	Improvement in the Dam watershed Area Sewage Treatment Rate (55%→57%)
	Water Quality Improvement Level 42.8% Settled Water Below 1NTU 99.4%
<b>Production &amp; Consumption of Environmentally-friendly Products</b>	Alleviate Distrust towards Tap Water (Supplied 8,990,000 bottled waters, Disclosed Water Quality Real-time 187 facilities)
	Production of Hydropower Energy (1,935GWh)
	2,138MWh for solar energy, wind power and others
	1 case of CDM UN registration
	Green Purchasing (KRW 11.6 billion won)
<b>Resource Savings &amp; Recycling</b>	Reduction in the Cost of Chemicals for Purification of Water (KRW 6.18 won/m <sup>3</sup> - Chemical Unit Cost)
	Electricity Consumption at Project Sites (reduction of 22,726MWh)
	Reduction in Oil Consumption (Diesel 82,092L, Kerosene 5,099L, LNG 211,000 m <sup>3</sup> )
	Reduction in Usage of Backwash Water at Water Purification Plant (1.37% of Clean Water Production)
	Reduction in food waste (discharge of food leftovers generated from head office 324kg/day)
<b>Reduction of Pollutant Discharge</b>	Improvement of Discharged Water Quality from Water Purification Plant (BOD 1.8mg/L, COD 3.8mg/L, SS 3.1mg/L)
	Control of Discharged Water Quality From Waste Water Treatment Facility (Less than BOD 10mg/L and SS 10mg/L)
	Reduction in Discharge of Sludge From Water Purification Plants (Discharge of Sludge: 0.06kg/m <sup>3</sup> )
<b>Environment, Safety, Health Management</b>	Training for Water Quality Accidents (104 cases) Industrial Disaster Ratio : 0.25%
	Fines Paid for Violating Environmental Regulations 0 Case
	Environmental Volunteer Activities 106 Times
<b>Strengthening Cooperation with Civil Society</b>	Council (Sihwa, Daechungho) Activities, & Participation & Support of Various, Events 39 Cases
	Support Water Resource Facility Tours (Water Tour 20,087 Visitors)
	Promoting Taking Care of Forests (area 75,658ha, 5dams)
<b>Other Environmental Management Activities</b>	Transparent Disclosure of Environmental Management Performance, Publishing the E Sustainability Report & GRI Reporting Registration (A+)
	Development of Water Resources in Underdeveloped Countries (4 Overseas Projects/ KRW 13.67 billion)
	95 published theses and 100 cases of research technology development/ intellectual property rights

● Performances

● Legal Compliance, Transportation, Environmental Accounting

Legal Compliance

No fines or cases of non-monetary sanctions were levied due to environmental regulation violations.

Environmental Effects from Transporting Employees & Executives

The analysis on how the environment is influenced by transportation such as business trip of employees and executives showed emissions of 4,219kg of air contaminant such as SOx. The uses of the commutation bus and public transportation is recommended to minimize the influence on the environment.

I Air Pollution Materials Discharged during the Transporting of Employees & Executives I

(Unit: kg)

Particulate Dust	SOx	CO	HC	NOx
202	1,432	506	56	2,022

※ Ministry of Environment Announcement 2009-30, The Discharge Index of the partly revised policy toward the method of calculating the total automobile pollution substance discharge amount was applied.

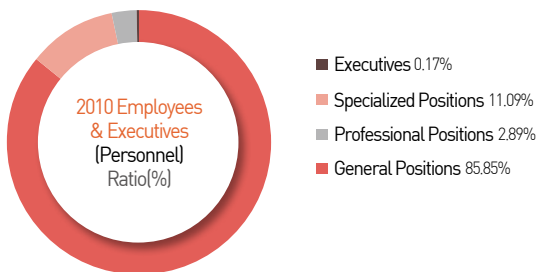
Expenditure for environmental protection and total investment

Refer to p49 for more details on environmental accounting such as the environmental investment and environmental cost.

Labor

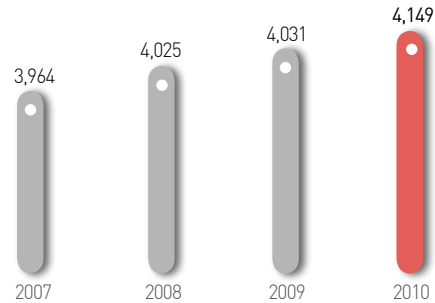
● Employment condition

The number of Officers and employees working for K-water total 4,149 (based on regular positions as of December 31, 2010) including 7 executives. The integration of similar function departments was performed to strengthen the global competitiveness and the manpower operation was made in efficiency through the organization rank simplification. New manpower of 199 persons were recruited publicly to implement large scale national projects actively, such as the 4-river project in 2010.

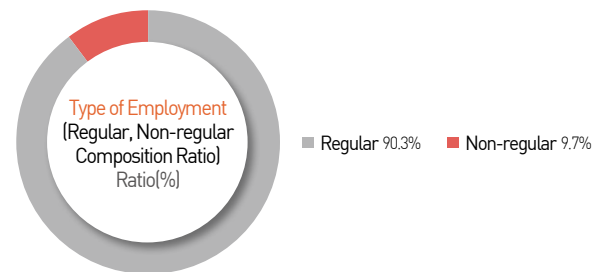
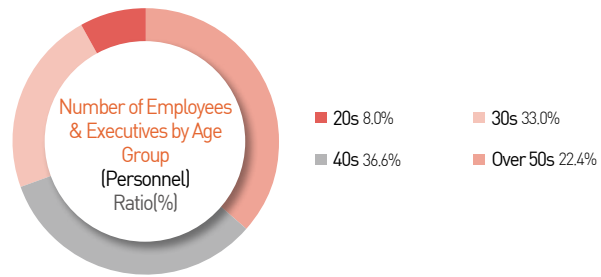


I Employees & Executives Statistic (Personnel) I

(Unit: People)

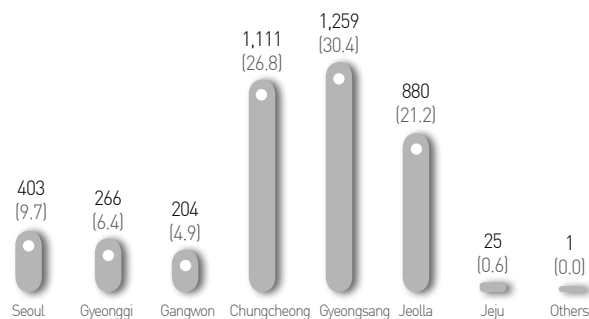


\*Personnel



I Personnel Status by Region I

(Unit: People, %)



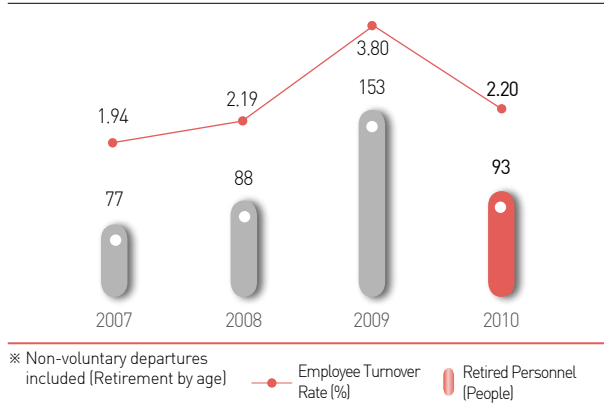


### Employee Turnover Rate

Public enterprise management efficiency is proceeding from 2009 to 2012. The turnover rate of employees for 2010 was 2.2% (93 employees) which shows a reduction from the turnover rate for 2009 which was 3.8% (153 employees) when public enterprise management efficiency was put into practice.

#### I Employee Turnover Rate I

[Unit: %, People]



#### I Status of departure in 2010 I

[Unit: People]

Class	Total	General position	Special position	Expert position
Total	93	54	2	33
Male	87	50	2	31
Femal	6	4		2

### Employee Welfare Policies

In addition to the legally guaranteed 4 major social insurance welfare policies for full-time employees, diverse welfare policies are being provided to increase productivity by helping stabilize living conditions, enhancing quality of life and providing incentives.

Category	Contents
Housing	* Home Purchase Loans * Company-owned Housing such as Dormitories
Education	* Tuition Support for Middle- and High School Students * Financial Aid for College Tuition * Head Office Child Day Care Center
Health Management	* Health Examination & Health Management Programs (Non-smoking & obesity clinics) * Head Office Medical Infirmary & On-site Safety / Health Personnel Designation Policy * In-house Dentist and Oriental Medicine Clinic
Maternity Protection	* Providing Breastfeeding Rooms and Female Employee Resting Area * Interim Workforce for Maternal & Child Care Leave Employees
Disaster Compensation	* Disaster Compensation Policy for Work-related Disasters * Support for Difficult-to-cure Diseases such as Cancer & Group Insurance Policy
Others	* Physical Training Center * Club Activity Support * Funeral Articles Support

### ● Labor-Management Relations

In accordance with article 35 of the Labor Union & Labor Related Conciliation Law, the right to collective bargaining and to negotiate collective agreement is guaranteed to all employees. The current labor union membership rate is 81.2%. Based on article 21 of the Collective Agreement (Responsibility to Notify), any changes made to labor conditions or articles of incorporation should be notified to each other without delay.

### ● Workplace Safety & Health

The Labor-Management Joint Project Safety & Health Committee was replaced by a Joint Labor-Management Council, and is comprised of 8 members each from labor and management.

The Council meets quarterly to discuss management issues. Through the Council, sufficient explanations on management issues are provided, and through mutual understanding, labor management disputes are reduced, while achieving mutual benefits for both labor and management by enhancing productivity and welfare standards for employees. To ensure workplace health & safety for project sites with over 100 employees, a joint labor-management Industrial Safety & Health Committee was created to discuss industrial safety & health issues within the workplace.

#### I Safety and health matters that came from the Labor-Management Meeting agendas I

• Improvement of maternal instinct protection system	• Improvement in child nurturing support system
• Special examination on the employees in harmful environment	• Improvement in operation of medical facility in headquarter

The diversified industry safety and health education and site safety control have been strengthened to prevent accidents. The system for performing the preventive action for accidents during sports events and the injured employees returning to work has been operated.

The prevalence ratio was reduced more than the previous year owing to the remarkable accomplishment through effective performance on the strict health checking, non-smoking program and obesity clinic from 2009 for early discovery of diseases and for the systematic control of the care taker.

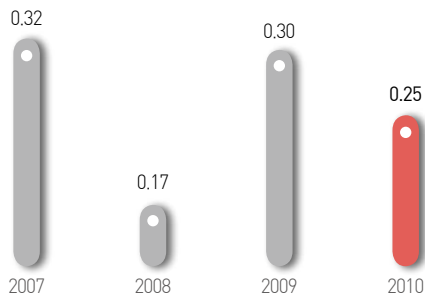
#### I Injuries, Occupational Disease, Days Lost, Work-related Disaster Rate & Prevalence Rate I

Year	Injuries	Injury Rate	Occupational Disease	Days Lost	Days Lost Rate
2010	13people	0.28%	0 people	724days	15.2%

● Performances

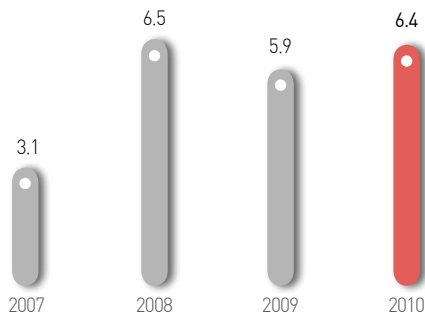
I Industrial Disaster Rate I

[Unit: %]



I Prevalence Rate I

[Unit: %]



**Disease Prevention & Risk Management Program for Employees & Local Citizens**

K-water operates an employee counselling support policy for employees and their families, and a 'Filial Piety Sharing Welfare Center' to enhance the welfare of senior citizens

• Ombudsman window

With the Ombudsman window operation in HR-BANK (human resource capital management integration system), problems of employees have been aggressively resolved and the detailed matters are referred to on p62 (human rights and respect for diversity).

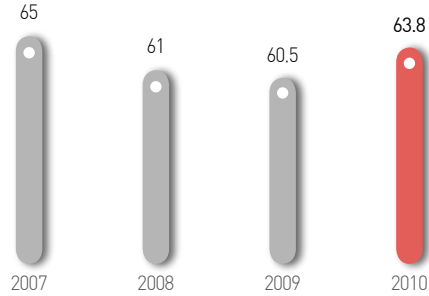
• Filial Duty Welfare Center

In order to relieve senior welfare issues in dam areas where the ratio of elder citizens is relatively higher than other areas, K-water has established Hamcheon Dam Filial Duty Welfare Center in 2006 and there are a total of 8 centers in operation as of now. By implementing various programs, such as, dispatching home volunteer service member, weekly care, leisure welfare business and others, local elderly welfare issues are solved, and efforts have been made to improve the satisfaction for local residents each year through the consignment of outstanding institutions of senior welfare for the surrounding areas.

● Education & Training

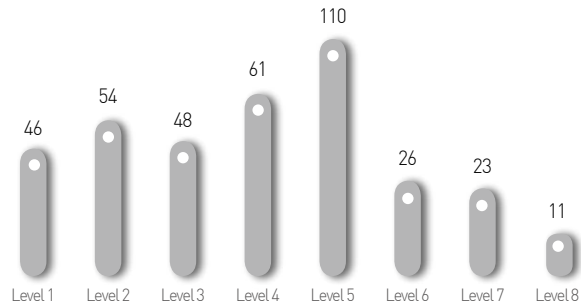
I Annual Average Training Hours per Employee I

[Unit: hr]



I Annual Average Training Hours per Person for Each Level I

[Unit: hr]



**Evergreen Program for Retirees**

To effectively prepare employees who are planning for retirement, an 'Evergreen Program' is being implemented. K-water is trying to provide a 2nd opportunity to the retirees by providing training courses related to change management & personal finances, real estate, and start-ups.

**Target for Performance Evaluation**

All employees & executives receive performance evaluations on a regular basis. For the case of officers (Vice President), management contracts are entered with the President to determine the personnel and performance level in accordance with the internal management performance evaluation, such as, Division evaluation, department evaluation, team evaluation and others for the head of departmental and lower ranks. The evaluation categories consist of a department core index and company-wide common index in accordance with the 4 major points of view (customer, finance, process and learning growth) of BSC (Balanced Score Card).



## ● Performances

### ● Eradicating Forced Labor

K-water is abiding by Korea's Labor Laws and ILO policies (No. 105, "Convention on Eliminating Forced Labor") to prohibit forced labor. K-water is faithfully abiding by the 4th Labor Standard principle from the 10 Global Compact principles.

### ● Security Practices

To protect individual rights and to prevent labor productivity from declining at project sites, a cyber training course is held for 1 member from each department. That person has the responsibility to disseminate the knowledge gained from the cyber training program to his/her department. In addition, to protect against personal information being disclosed, K-water has replaced personal registration numbers with i-Pin (Internet Personal Identification Number). K-water is continuously searching for ways to enhance security measures. For more details, please refer to page 62 of this report.

### ● Rights of Local Residents

As an SOC investment related public corporation that constructs dams, waterworks, and industrial complexes, there are inadvertent disputes with local residents in the process of implementing projects. Most are lawsuits related to property compensations. Out of the 13 lawsuit cases in 2009, 1 case has been solved, while 12 others are still in legal proceedings. Despite the proceedings, K-water is trying to protect the local citizens that have to leave their base of life, while expediently solving these cases. As part of a support package to provide support to local citizens that have had their base of life submerged after construction, K-water is providing diverse benefits to the local citizens through the various support projects to areas adjacent to dams.

## Society

### ● Influence on Local Communities

#### Initiating Environmental Assessments for Each Project Stage & Conducting Local Environmental Management

By taking into consideration the environmental & social effects in each stage of a project, K-water is carrying-out sustainable water resource development. From the administrative planning stage of a K-water water resource project, suggestions & opinions from local citizens are collected. At the same time, a local council is established through the participation of local citizens and project related parties to alleviate various problems that might affect the local community. In addition, by participating in overseas water resource development projects, K-water is contributing to the sustainable development of those countries where the projects are being carried-out, by initiating environmental evaluations to implement sustainable development from the planning stage included Pakistan and Cambodia.

#### Strategic Environment Assessment

As a strategic decision-making support measure taking into consideration

administration planning, which is the first stage in each development project, to environmental, economic and social effects, the environmental feasibility of a plan must be secured so that it contributes to an environmentally rational dam candidate location and selection process achieved through strategic environment assessments conducted since 2007.

#### Pre-environmental Review System

As a policy to prevent any environmental impacts through the establishment of environmentally desirable administrative plans and development plans by reviewing the environmental effects and appropriateness of the selected development site based on administrative plans, which is the higher ranking stage of development projects, and development plans, the pre-environmental review helps in selecting an environmentally-friendly site when establishing basic plans for the construction of dams. When deciding on national projects such as the Youngju Multipurpose Dam and Bohyunsan Multipurpose Dam basic construction plans in 2010, a pre-environmental review was initiated. The review helped in the process of decision-making by taking into consideration economical and technological factors, including environmental factors.

#### Environmental Impacts Assessment

As a policy to minimize any environmental impacts by projecting & evaluating the effects on the environment from the actual designing stage of a development project, and by identifying methods to reduce the effects on the environment, K-water is trying to protect the local environment by searching for appropriate reduction methods through an environmental impact assessment when establishing actual plans for dam construction. In 2010, an environmental impact assessment was carried-out on large scale national projects such as the Youngju Multipurpose Dam and the Gyeong-in Ara Waterway Business. As a result, environmental impact reduction measures were established through the creation of ecological wetlands, fish ways and canals for desalinization.

#### Post Environmental Audit

Through the environmental impact assessment, an environmental audit is carried-out from the start of construction to the 5th year of construction at the construction sites to make sure that agreements are strictly adhered to and any potential environmental impacts from construction and operations are prevented. Measures were established to minimize the environmental impacts by initiating post environmental audits on 16 projects including the Gunwi Multipurpose Dam, 4-River Restoration Business, Sihwa River Hydropower Plant, etc in 2010.

#### Environment Restoration & Cultural Treasure Preservation

Efforts are being taken to restore local environments by creating environmentally-friendly facilities such as eco-corridors, fish ways and substitute habitats to prevent changes in the environment from water resource development projects, and to secure ecological soundness. As can be seen through the Jangheung Dam Seonsamun Cultural Park and the Daegok Dam Cultural Exhibition Hall construction, K-water is placing its efforts on preserving local cultural assets that can be potentially submerged or damaged.





## Product Responsibility

Through the Customer Charter, based on a management philosophy that believes the customer's value is K-water's value, K-water is practicing a customer-oriented management system to get a step closer to customers.

### ● Observing Customer Health & Safety

By expanding the waterworks Life-cycle Assessment (LCA) and the acquisition of the carbon labeling certification to all K-water's project sites, safety and the quality of water has improved. Since 2003, targeted towards all multi-regional purification plants, K-water has been operating a water quality rating system internally on 14 items, including turbidity, residual chlorine, taste, smell and disinfection by-products. The evaluation standard that K-water applies is stricter than legal standards. In accordance to the internal 'Service Implementation Standards,' the frequency of cases of nonconformity in regards to water quality standards is managed by K-water. There have been no cases of violations in 2010.

### ● Product & Service Labeling

To satisfy the diverse needs of customers, customers have been segmented into groups, and customized services are provided to customers. A monitoring and feedback system has been established to analyze customer satisfaction. There have been no product and service labeling related regulations that have been violated. For detailed information such as customer satisfaction level assessments, please refer to Customer Satisfaction Management on page 26.

### ● Marketing Communications

Efforts are taken to provide accurate information to customers so as not to effect their judgment. Related regulations and corporate-wide work principles are observed, including marketing communications such as advertisements, promotions and sponsorships. For all advertisements, such as property sales advertisements, an internal selection standard is applied in selecting the advertisement medium to ensure impartiality. K-water observes the review regulations and laws of the Korea Advertising Review Board. There have been no cases of any violations related to marketing.

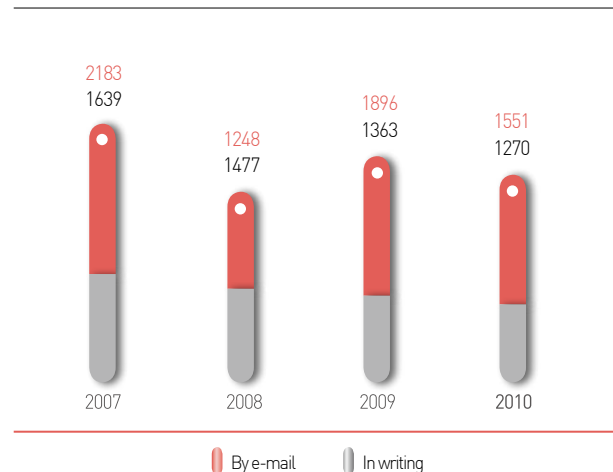
### ● Protecting Customer's Personal Information & Observing Supply-related Regulations

Customers' personal information is protected by establishing customer & data base security policies such as Access Restrictions, Authorization Controls and Post Audits. In relation to protecting customer personal information, there have been no cases of complaints by any customers. To expediently process civil complaints, K-water applied stricter internal standards, resulting in K-water achieving a timely processing rate of 99.4%. Customer complaints are being minimized by observing service

implementation targets that have been detailed by work sectors through the revision and implementation of the Customer Charter. K-water is striving to provide answers to concerned customers in a timely manner by operating a dissatisfaction receipt window that is open and accessible at all times on K-water's homepage (Customer's Voice, Bulletin Board). The dissatisfaction items received are utilized as a precious resource to identify management improvement projects. There have been no fines paid as a result of violations of laws and regulations related to products and services. However, due to large scale national projects, such as the 4-River Restoration Business, civil complaints have gone up in 2009 as compared to the previous year.

I Number of Civil Complaint Cases I

(Unit : Case)

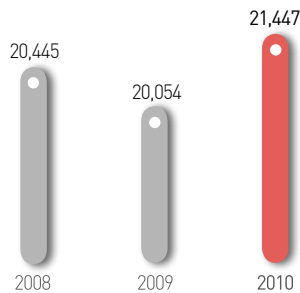


# Financial Performance

Following the sales increase in new businesses, including water, dam water supply, and an increase in power generation, local waterworks, and others, sales revenue totalled 2 trillion 144.7 billion won, an increase of 6.9% compared to the previous year. Notwithstanding the freeze of charges for 6 consecutive years, sales revenue expanded, resulting in a net income of 142.1 billion won, which is a 74.2% increase when compared to the previous year, and in 2011, revenue is expected to increase in growth and profitability with the strengthening of climate change competitiveness through expanding investments in the field of green technology, facilitation of new growth engines, including, customer management, new and renewable energy and others.

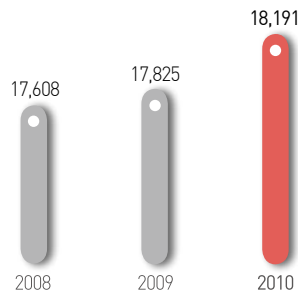
### Revenues

(Unit: KRW 100Million)



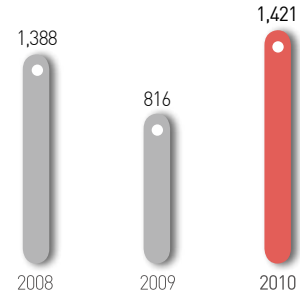
### Cost of Sales

(Unit: KRW 100Million)



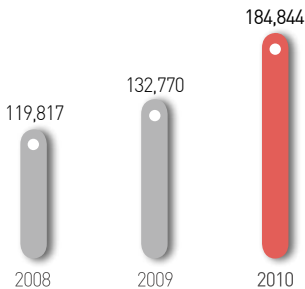
### Net Profits

(Unit: KRW 100Million)



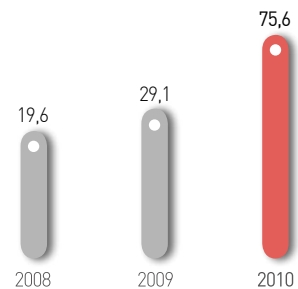
### Assets

(Unit: KRW 100Million)



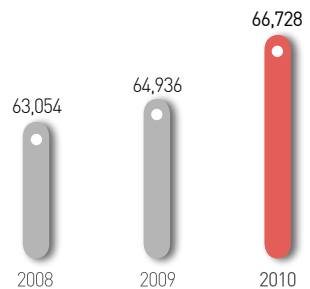
### Debt Ratio

(Unit: KRW 100Million)



### Capital

(Unit: KRW 100Million)

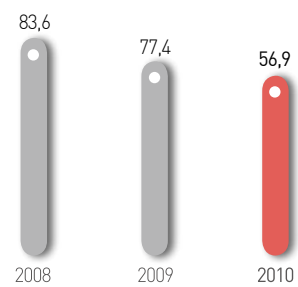


### International Credit Rating

- Moody's : **A1**
- S&P : **A**

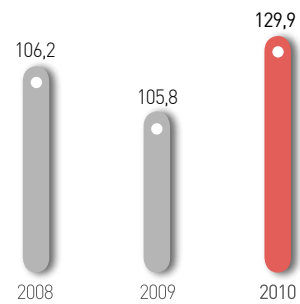
### Ratio of Owner's Equity

(Unit: %)



### Current Ratio

(Unit: %)



## Statement of financial position (As of December 31, 2010 and 2009)

(Unit: won)

Category	The 37th Term (Current)		The 36th Term (Previous)	
	Amount		Amount	
<b>[Assets]</b>				
<b>I. Current Assets</b>		1,304,694,783,207		499,946,334,872
(1) Quick Assets		619,401,268,489		441,643,655,711
1. Cash and Cash Equivalent	159,055,091,328		104,204,900,310	
2. Account payables	317,936,229,420		295,465,094,512	
Bad debt reserve	(471,251,242)		(556,174,518)	
3. Other receivables	52,679,517,298		22,300,486,992	
Bad debt reserve	(16,006,687,831)		(15,722,317,150)	
4. Accrued income	6,128,019,536		4,053,497,543	
5. Advance payment	31,358,015,192		27,198,864,710	
6. Prepaid expenses	3,030,162,561		4,666,885,572	
7. Derivative financial product assets	65,573,576,397		-	
8. Other quick assets	118,595,830		32,417,740	
(2) Inventory		685,293,514,718		58,302,679,161
1. Incomplete work	677,979,918,103		50,118,463,480	
2. Raw materials	2,428,098,686		3,069,395,630	
3. Supplies	4,885,497,929		5,114,820,051	
<b>II. Fixed Assets</b>		17,179,729,750,867		12,777,123,673,603
(1) Investments		1,824,141,596,365		1,712,145,492,740
1. Long-term financial product	6,421,606,474		13,408,095,366	
2. Long-term incomplete work	1,658,136,462,252		1,488,929,822,248	
3. Sellable securities	4,323,800,000		4,323,800,000	
4. Equity approach applying investment securities	21,354,693,427		8,482,469,995	
5. Long-term loans	19,208,078,023		17,319,333,193	
6. Derivative financial product assets	112,091,189,408		176,091,152,449	
7. Other investment assets	2,605,766,781		3,590,819,489	
(2) Tangible asset		7,011,520,991,554		2,903,245,796,444
1. Land	40,926,218,587		39,867,529,860	
2. Building	332,804,614,879		319,312,224,487	
Cumulative depreciation	(91,641,355,132)		(80,916,889,566)	
National subsidy	(959,242,333)		(996,744,333)	
3. Structure	130,344,260,889		128,065,612,723	
Cumulative depreciation	(42,391,563,309)		(38,003,472,624)	
4. Machine and equipment	487,457,694,475		468,968,346,486	
Cumulative depreciation	(270,729,386,649)		(248,040,830,640)	
5. Ships	9,826,211,746		9,049,013,703	
Cumulative depreciation	(5,336,002,933)		(4,949,297,259)	
6. Vehicle and transportation equipment	11,222,164,164		11,317,653,274	
Cumulative depreciation	(8,894,260,606)		(8,333,856,573)	
7. Construction in progress	6,405,086,943,395		2,291,714,007,769	
National subsidy	(13,756,815,784)		(14,011,571,224)	
8. Other tangible asset	93,891,496,531		88,229,645,262	
Cumulative depreciation	(66,329,986,366)		(58,025,574,901)	



(Unit: won)

Category	The 37th Term (Current)		The 36th Term (Previous)	
	Amount		Amount	
(3) Intangible assets	7,793,993,400,172		7,687,891,005,417	
1. Industrial property rights	195,488,317		188,371,050	
2. Computer SW	18,911,424,835		20,287,448,913	
3. Right to use power generation dam	2,934,361,553,586		2,900,886,331,641	
4. Water facilities management right	4,683,325,690,554		4,649,714,511,216	
National subsidy	(7,836,938,629)		(8,359,401,203)	
Work contribution	(8,290,525,625)		(3,072,955,625)	
5. Profit donation asset	179,361,554,311		129,614,578,751	
National subsidy	(9,524,401,563)		(5,528,210,803)	
6. Aggregate complex management right	3,489,554,386		4,160,331,477	
(4) Other long-term assets	550,073,762,776		473,841,379,002	
1. Long-term sales receivables	427,478,079,365		375,703,045,887	
Present value discount amount	(14,728,491,324)		(12,428,817,096)	
2. Security deposit	119,183,826,525		110,567,150,211	
3. Differed income tax assets	18,140,348,210		-	
<b>Total Assets</b>	<b>18,484,424,534,074</b>		<b>13,277,070,008,475</b>	
<b>Liabilities</b>				
I. Current Liabilities	1,004,155,262,029		472,551,979,072	
1. Account payables	8,479,470,824		7,142,627,109	
2. Other account payables	145,871,302,010		119,074,311,706	
3. Advance from payables	320,415,975,260		262,175,166,665	
4. Withholding	24,030,165,508		22,273,998,415	
5. Accrued expenses	49,658,171,696		16,593,215,300	
6. Accrued income tax	22,191,171,740		3,940,070,848	
7. Accrued dividends	91,313,980		80,391,310	
8. Current long-term liabilities	407,321,317,840		33,453,517,770	
9. Unearned income	44,129,561		44,763,056	
10. Short-term deferred income tax liabilities	2,135,183,370		1,401,684,608	
11. Other current liabilities	23,917,060,240		6,372,232,285	
II. Long-term Liabilities	6,956,559,124,362		2,523,087,153,385	
1. Debentures	6,316,144,290,000		1,943,867,480,000	
Debenture discount issuance amount	(4,772,243,453)		(6,310,776,895)	
2. Long-term borrowing	336,684,225,000		382,762,542,840	
3. Retirement wage reserve	205,476,962,876		166,200,268,438	
4. Derivative financial product liabilities	101,424,815,498		21,662,956,560	
5. Deferred income tax liabilities	-		807,528,412	
6. Appropriate liabilities	1,601,074,441		14,097,154,030	
<b>Total Liabilities</b>	<b>7,960,714,386,391</b>		<b>2,995,639,132,457</b>	
<b>Capital</b>				
I. Capital Equity	6,672,837,445,091		6,493,585,024,681	
1. Government equity capital equity	6,064,421,078,410		5,885,168,658,000	
2. Other equity capital equity	608,416,366,681		608,416,366,681	

## Statement of financial position (As of December 31, 2010 and 2009)

(Unit: won)

Category	The 37th Term (Current)		The 36th Term (Previous)	
	Amount		Amount	
II. Capital Surplus	1,451,379,166,208		1,451,379,166,208	
1. Re-evaluation reserve	1,449,018,997,581		1,449,018,997,581	
2. Other capital surplus	2,360,168,627		2,360,168,627	
III. Capital Adjustment	(587,668,327)		(569,529,790)	
1. Stock discount issuance amount	(587,668,327)		(569,529,790)	
IV. Other comprehensive income accumulation	(29,220,320,470)		36,951,457,052	
1. Gain on evaluation of derivative financial product	17,557,852,743		42,267,443,002	
2. Loss on evaluation of derivative financial product	(46,160,759,045)		(5,315,985,950)	
3. Negative equity approach capital change	(617,414,168)		-	
V. Retained Income	2,429,301,525,181		2,300,084,757,867	
1. Legal reserve	2,261,664,842,334		2,169,351,194,265	
2. SOC investment reserve	25,532,838,240		49,157,806,492	
3. Pre-disposition retained income	142,103,844,607		81,575,757,110	
<b>Total Capital</b>	<b>10,523,710,147,683</b>		<b>10,281,430,876,018</b>	
<b>Total Liabilities and Capital</b>	<b>18,484,424,534,074</b>		<b>13,277,070,008,475</b>	

## Statements of income (Years ended December 31, 2010 and 2009)

(Unit: won)

Category	The 37th Term (Current)		The 36th Term (Previous)	
	Amount		Amount	
I. Sales Revenue	2,144,749,560,970		2,005,383,610,176	
1. Sales Revenue on Product	169,819,736,847		222,713,737,330	
2. Income from construction business	495,721,755,095		497,095,639,307	
3. Income from management business	1,396,974,258,944		1,206,486,281,025	
4. Income from incidental business	82,233,810,084		79,087,952,514	
II. Cost of Sales	1,819,063,629,843		1,782,472,891,447	
1. Cost of Sales of Products	153,457,337,596		194,003,715,011	
2. Construction business expenses	495,721,755,095		497,194,706,803	
3. Management business expenses	1,086,932,769,531		1,003,721,709,306	
4. Incidental business expenses	82,951,767,621		87,552,760,327	
III. Gross Profit	325,685,931,127		222,910,718,729	
IV. Selling and Administrative Expenses	96,246,650,045		93,370,754,014	
1. Wages	27,403,160,705		25,036,787,621	
2. Retirement wage	6,038,505,598		3,402,823,706	
3. Welfare benefit	7,453,793,316		6,028,102,870	
4. Business trip and communication	1,630,422,257		1,673,700,026	
5. Communication	1,797,500,168		2,100,881,083	
6. Power and water	819,195,516		749,655,383	
7. Fuel maintenance	389,576,949		373,557,562	
8. Taxes and dues	1,429,200,477		578,112,910	
9. Expandable goods	478,695,775		640,769,247	
10. Uniforms	49,019,605		47,900,858	
11. Books and printing	550,233,092		585,052,844	
12. Lease payments	694,751,824		790,091,666	
13. Depreciation	2,754,936,833		2,715,806,860	
14. Depreciation on intangible asset assets	877,664,844		856,743,377	
15. Repairing and maintenance	5,595,244,118		5,882,638,287	
16. Vehicles	504,334,907		498,215,925	
17. Insurance premium	839,755,308		718,560,465	
18. Paid fees	5,001,728,682		4,816,592,230	
19. Work expenses	151,431,713		145,330,141	
20. Advertisement	6,897,415,521		7,243,882,125	
21. Education and training	4,145,171,839		3,660,554,571	
22. Survey and analysis	88,904,561		79,481,470	
23. Rewards	385,091,983		466,802,227	
24. Registry and litigation	113,471,543		225,168,180	
25. Cooperative expenses	139,990,000		192,151,000	
26. Research	15,624,242,377		14,172,770,938	
27. Ordinary development expenses	702,513,299		1,295,327,051	
28. General maintenance expenses	284,370,681		69,384,671	
29. Selling and advertisement	147,097,158		166,108,690	
30. Sales promotion	393,974,471		397,093,570	
31. Selling commission	20,000,000		177,254,053	
32. In-company welfare fund	1,838,000,000		6,500,000,000	
33. General maintenance expenses	1,007,254,925		1,083,452,407	

## Statements of income (Years ended December 31, 2010 and 2009)

(Unit: won)

Category	The 37th Term (Current)		The 36th Term (Previous)	
	Amount		Amount	
V. Operating Income	229,439,281,082		129,539,964,715	
VI. Non-operating Income	169,151,346,211		135,054,214,009	
1. Interest income	13,023,891,004		8,862,973,911	
2. Dividend income	106,920,000		89,100,000	
3. Equity approach evaluation income	1,214,185,051		200,381,206	
4. Lease payment	1,077,378,728		754,029,609	
5. Gain on disposition of marketable securities	16,178,939		-	
6. Gain on foreign currency conversion	58,843,430,000		105,058,340,000	
7. Gain on disposition of tangible assets	4,561,925,443		5,139,437,741	
8. Gain on derivative product evaluation	64,699,240,000		-	
9. Contract breach compensation	3,824,958,810		12,394,138,556	
10. Transfer in of bad debt reserve	84,923,276		-	
11. National subsidy	-		580,720,657	
12. Transfer in of appropriate liabilities	14,095,105,630		-	
13. Miscellaneous income	7,603,209,330		1,975,092,329	
VII. Non-operating Expenses	222,566,325,646		172,677,246,449	
1. Interest expenses	90,386,695,398		33,164,415,331	
2. Other bad debt depreciation	-		13,294,615,103	
3. Loss on foreign exchange difference	64,699,240,000		-	
4. Contribution	999,571,430		1,450,625,334	
5. Loss on equity approach evaluation	39,967,786		269,390,539	
6. Loss on disposition of investment assets	3,275,521		668,743,469	
7. Loss on disposition of equity approach investment assets	63,834,477		-	
8. Loss on disposition of tangible asset	623,858,715		485,975,258	
9. Loss on reduced amount of marketable securities	1,567,966,894		-	
10. Loss on derivative evaluation	58,843,430,000		105,058,340,000	
11. Transfer amount of appropriate liabilities	1,599,026,041		14,097,154,030	
12. Miscellaneous loss	3,739,459,384		4,187,987,385	
VIII. Net Income before Deducting Income Tax Expenses	176,024,301,647		91,916,932,275	
IX. Income Tax Expenses	33,920,457,040		10,341,175,165	
X. Current Net Income	142,103,844,607		81,575,757,110	



## Statements of appropriations of retained earnings (Years ended December 31, 2010 and 2009)

(Unit: won)

Category	The 37th Term (Current)	The 36th Term (Previous)
	Amount	Amount
I. Retained income before Disposition	142,103,844,607	81,575,757,110
1. Current net income	142,103,844,607	81,575,757,110
II. Transfer In of Voluntary Reserve	16,863,622,571	23,624,968,252
1. SOC Investment Reserve	16,863,622,571	23,624,968,252
Total	158,967,467,178	105,200,725,362
III. Retained Earnings Disposition Amount	158,967,467,178	105,200,725,362
1. Profit reserve	31,793,493,436	21,040,145,072
2. Other legal reserve	106,305,902,516	71,273,502,997
1) Business expansion reserve	106,305,902,516	71,273,502,997
3. Depreciation for stock discount issuance difference	262,349,196	244,067,263
4. Dividend	20,605,722,030	12,643,010,030
1) Government dividend (Dividend rate: 0.3088%)	18,726,932,290	11,458,423,370
2) Other dividend (Dividend rate: 0.3088%)	1,878,789,740	1,184,586,660
IV. Retained income carried over to next term	-	-

## Statements of cash flows (Years ended December 31, 2010 and 2009)

(Unit: won)

Category	The 37th Term (Current)		The 36th Term (Previous)	
	Amount		Amount	
<b>I. Cash Flow from Operating Activities</b>		<b>[48,495,373,918]</b>		<b>237,241,346,636</b>
1. Current net income	142,103,844,607		81,575,757,110	
2. Addition of expenses and others without cash outflow	709,552,090,296		653,013,015,957	
A. Loss on foreign currency conversion	64,699,240,000		-	
B. Loss on equity approach evaluation	39,967,786		269,390,539	
C. Loss on derivative product	528,925,298,662		494,200,690,573	
D. Loss on disposition of equity approach investment stocks	623,858,715		485,975,258	
E. Transfer amount of appropriate liabilities	1,567,966,894		-	
F. Gain on foreign currency conversion	58,843,430,000		105,058,340,000	
G. Loss on disposition of investment assets	3,275,521		668,743,469	
H. Loss on disposition of equity approach investment stocks	63,834,477		-	
I. Depreciation of debenture discount issuance difference	2,562,048,537		1,866,327,833	
G. Retirement wage	50,339,296,740		23,002,394,481	
K. Donations	476,242		-	
L. Bad debt depreciation	284,370,681		69,384,671	
M. Transfer amount of appropriate liabilities	1,599,026,041		14,097,154,030	
N. Other bad debt depreciation	-		13,294,615,103	
3. Reduction of income and others without cash inflow	[143,498,809,400]		[110,624,070,426]	
A. Gain on equity approach evaluation	1,214,185,051		200,381,206	
B. Gain on disposition of tangible assets	4,561,925,443		5,139,437,741	
C. Transfer in of bad debt reserve	84,923,276		-	
D. Loss on derivative evaluation	58,843,430,000		105,058,340,000	
E. Gain on derivative product evaluation	64,699,240,000		-	
F. Transfer in of appropriate liabilities	14,095,105,630		-	
G. Miscellaneous gain	-		225,911,479	
4. Change of assets and liabilities from operating activities	[756,652,499,421]		[386,723,356,005]	
A. Decrease (Increase) of trade receivables (net amount)	[71,946,494,158]		[116,069,414,732]	
B. Decrease (Increase) of inventories and long-term incomplete works	[796,197,475,561]		[348,997,918,087]	
C. Decrease (Increase) Other receivables	[30,029,175,669]		2,701,771,532	
D. Decrease (Increase) of accrued income	[2,074,521,993]		[782,212,853]	
E. Decrease (Increase) of prepaid expenses	1,636,723,011		[945,026,627]	
F. Decrease (Increase) of advance payments	[4,159,150,482]		64,961,821,217	
G. Decrease (Increase) of deposits	[86,178,090]		11,068,600	
H. Decrease (Increase) of inventories and long-term incomplete works	349,344,018		-	
I. Increase (Decrease) of trade payables	1,336,843,715		919,087,284	
J. Increase (Decrease) of other accounts payables	26,796,990,304		38,116,993,750	
K. Increase (Decrease) of advance from customers	58,240,808,595		4,823,968,598	
L. Increase (Decrease) of withholdings	1,756,167,093		2,427,010,406	
M. Increase (Decrease) of accrued expenses	33,064,956,396		7,810,255,441	
N. Increase (Decrease) of accrued income taxes	18,251,100,892		[16,309,733,194]	
O. Increase (Decrease) of deferred income tax long-term (assets)	[74,029,650]		[11,815,419,540]	
P. Increase (Decrease) of unearned income	[633,495]		[19,939,501]	
Q. Increase (Decrease) of withheld security deposit	17,544,827,955		[630,059]	
R. Payment of retirement allowance	[11,062,602,302]		[13,555,038,240]	

(Unit: won)

Category	The 37th Term (Current)		The 36th Term (Previous)	
	Amount		Amount	
II. Cash Flow from Investment Activities	(4,664,378,499,842)		(1,213,509,777,707)	
1. Cash Inflow from investment activities	92,152,304,268		113,682,117,335	
A. Disposition of marketable securities (short-term financial product)	-		53,000,000,000	
B. Reduction of specific cash and deposit	23,907,908,745		14,665,364,224	
C. Disposition of investment stocks	702,074,880		-	
D. Recovery of employee long-term lending	1,736,263,858		2,117,886,464	
E. Decrease Deposit	58,584,807,565		34,030,374,196	
F. Disposition of tangible asset and intangible assets	7,221,249,220		9,868,492,451	
2. Cash outflow from investment activities	(4,756,530,804,110)		(1,327,191,895,042)	
A. Acquisition of marketable securities (short-term financial product)	-		45,000,000,000	
B. Increase of specific cash and deposits	16,921,419,853		17,179,007,006	
C. Increase Long-term Loans	3,625,008,688		5,687,208,199	
D. Acquire sellable securities	-		105,300,000	
E. Acquisition of investment stocks	13,081,329,692		3,380,523,147	
F. Increase Deposit	67,204,759,400		42,904,772,600	
G. Acquisition of tangible asset and intangible asset assets	4,655,698,286,477		1,212,935,084,090	
III. Cash Flow from Financial Activities	4,767,724,064,778		1,050,050,572,542	
1. Cash inflow from financial activities	4,813,809,669,908		1,103,640,599,422	
A. Issuance of debenture	4,724,800,875,708		1,089,907,145,212	
B. Increase of long-term borrowing on won currency	700,000,000		-	
C. Cash investment from government and local government	88,308,794,200		13,733,454,210	
2. Cash outflow from financial activities	(46,085,605,130)		(53,590,026,880)	
A. Repayment of long-term borrowing on won currency	33,453,517,770		-	
B. Repayment of Long-term Loans	-		29,335,677,770	
C. Payment of dividend	12,632,087,360		24,254,349,110	
IV. Increase (Decrease) of Cash	54,850,191,018		73,782,141,471	
V. Beginning Cash	104,204,900,310		30,422,758,839	
VI. Ending Cash	159,055,091,328		104,204,900,310	

## Positive & Negative Information

K-water is maintaining a balance in disclosure by providing both good and bad news to enable readers of this sustainability report to objectively assess K-water's overall sustainable management performance.

## Good News

# 2010





# GRI Report Index

Index	Contents of Index	K-water Adaptation Index	Global Compact	Page	Report Rate
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1.2	Major effects, Threatening factors and Opportunity factors	Continuance possibility factors, Ethics, Crisis management		10-11, 32-33	●
<b>Structure Profile</b>					
2.1	Structure Name	Company Name		7	●
2.2	Major brands, products and services	Major brands, products and services		7, 16-17	●
2.3	Structure of major business departments, operating company, subsidiary companies, collaborating companies, Structure of major business departments, financing companies, etc.	Structure of major business departments, financing companies, etc.		7, 14	●
2.4	Location of head office	Location of head office		7	●
2.5	Number of countries reported structure is operating in, Names of countries that have detailed relations with the problem of continuance possibility handled in the report	Number of businesses, number of overseas business companies		7	●
2.6	Characteristics and legal form of owned structure	Financial provider structure, shares structure		24	●
2.7	Subject market	Subject market and customer categories		28-29	●
2.8	Subject market and customer categories	Number of executives, sales, total assets, total debts		7	●
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2.10	Awards during reported period	Breakdown of overseas awards and certificates		2	●
<b>Parameters</b>					
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3.2	Date of most recent report	August, 2010		2	●
3.3	Report cycle	Annual		2	●
3.4	Inquiries on report and related areas	Report inquiries		2	●
3.5	Report contents definition process	Subject readers and stakeholders		2	●
3.6	Report border	Korean businesses and overseas business accomplishments		2	●
3.7	Detailed restrictions of report range or report border	Accomplishments of overseas business		2	●
3.8	Reporting standard of things that may have a large effect on comparing possibilities according to period or structure, such as collaborating companies, subsidiary companies, rented facilities or outside duties	Same term as 4 financing companies		105	●
3.9	Data measurement methods including presumptions and methods that support accomplishment index and other predictions adapted in information collection process, and calculation standard	Financial, environmental, social data measurements		105	●
3.10	Effects of re-stating information presented in last report and explanation of reason for re-statements	No change		2	●
3.11	Big change in report range, border and measurement method compared to last report	Change in Korean place of business and overseas projects		2	●
3.12	Index that shows the position of standard notices in the report	GRI Content Index		97-100	●
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## GRI Report Index

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4.15	Participating stakeholders identification and selection standard	Stakeholders identification and selection		28-31	●
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LA2	Number and ratio of people that left the company	Number and ratio of people that left the company		81	●
LA3	Privileges of full-time employees that are not given to part-timers	Privileges of full-time employees		81	●
LA4	Ratio of employees that are subjects of group negotiations	Ratio of employees that are subjects of group negotiations	3	81	●
LA5	Minimum period for reporting important change in business	Reporting period according to group agreement		81	●
LA6	Employee ratio represented by labor union joint Health and Safety Committee	Changed to joint labor-management conference	3	81	●
LA7	Number of injuries, work diseases, days lost, and work related disasters	Rate of industrial disasters and diseases		81-82	●
LA8	Education, training, counseling, prevention and threat management programs to support seriously diseased employees, their families and local residents	Operating the problem consulting center for officers and employees and the filial duty welfare center for inhabitants		82	●
LA9	Welfare and Safety conditions, formal subject of negotiations with joint labormanagement conference	Joint labor-management conference agenda	3	81	●
LA10	Average education hours per day according to form of employee	Average training hours per year according to employee grade		82	●
LA11	Duties education and lifelong education programs for continuous employment and retiring employees support	Evergreen program for retirees		82	●
LA12	Percentage of employees receiving regular performance and career development reviews	Employees receiving performance and reviews	6	82	●
LA13	Structure of Board of Directors and employees	Status of executives structure	6	83	●
LA14	Ratio of basic salary of newly recruited men and women personnel according to employee range	Ratio of basic salary of newly recruited men and women personnel	6	83	●

## GRI Report Index

Index	Contents of Index	K-water Adaptation Index	Global Compact	Page	Report Rate
<b>Human rights accomplishments index</b>					
HR1	Number and ratio of major investing agreements that include human rights protection clauses or that passed human rights evaluation	Contracts and agreements including human rights evaluation	2	83	●
HR2	Human rights evaluation ratio of major supply companies and contract companies	Method of evaluating human rights of supplying companies, etc.	2	83	●
HR3	Employee training on duties related human rights policies and processes	Human rights related education (Sexual harassment prevention education)	2	83	●
HR4	Total discrimination cases and related handling	Management and counseling through executives' difficulties handling system	1	83	●
HR5	Duty fields evaluated to have a chance of serious violation of association or group negotiations freedom, and management to guarantee such rights	Rights and benefits protection for women and the disabled, etc	1	83	●
HR6	Business fields with a high chance of child labor and management to stop child labor	Restraint against employing youths (Employment rule)	5	83	●
HR7	Business fields with a high chance of forced labor and management to stop such labor	Forced labor prohibition rule (Korean labor standard law)	4	84	●
HR8	Ratio of security personnel that have certified the human rights policy and process education	Education accomplishments of human rights related security personnel	1	84	●
HR9	Number of local residents rights violation and related management	Civil treatment of local residents	2	84	●
<b>Social accomplishments index</b>					
S01	Characteristics, range and effect of program that evaluates local social effects from beginning, during and finishing stages of duties	Environmental evaluation according to stages, aftereffects evaluation		84	●
S02	Number and ratio of business units analyzed to have corruption risk	Inspection of high positions or departments with high chance of corruption through department purity evaluation	10	85	●
S03	Ratio of employees who received anti-corruption policy and process related education	Rate of ethical management training certification	10	85	●
S04	Management of corruption cases	Handling of corruption cases	10	85	●
S05	Position on public policies, establishment of public policies and participation in lobbying	Participation in public policies, such as carrying out government policies		85	●
S06	Total amount donated to parties, politicians or related facilities according to nation	Support in the name of the corporation is legally prohibited		85	N/A
S07	Number of unfair competition activities and monopoly actions that were dealt with legally, and the results	Regular Free Trade Commission inspections	10	85	●
S08	Number of cases of fine and non-financial restraint due to violation of law or regulations	Number of violation cases and fines		85	●
<b>Product responsibility accomplishments index</b>					
PR1	Stage of deliberation of life cycle that evaluates health and safety effects of product and service, ratio of major products and services that actually carry out the evaluation	Introducing 5-Star water purification plant & CO <sub>2</sub> labelling, and advanced water purification plant, the evaluating system of water purification level		58-59	●
PR2	Number of violation of customer health and safety effects related restraints and voluntary rule violation cases in product and service life cycle	Efforts to abide by laws related to health and safety of customers		86	●
PR3	Necessary product and service information type for process, ratio of products and services with such information	Efforts to provide information on tap water quality, etc		86	●
PR4	Number of product or service information labeling related restraint voluntary violation	Efforts to provide information on tap water quality, etc		86	●
PR5	Customer satisfaction related activities including customer satisfaction evaluation survey results, etc	Customer satisfaction research results		86	●
PR6	Marketing communications such as advertisement, promotion, sponsorship restraints, standard and voluntary rule abiding program	Abiding by marketing related restraints		86	●
PR7	Number of marketing communications such as advertisement, promotion, sponsorship restraints, standard and voluntary rule violation cases	Efforts to abide by promotion related laws		86	●
PR8	Number of complaints on violation of customer personal information protection and customer data loss	Number of Internet civil cases and breakdown		86	●
PR9	Total fine from violation of laws and regulations on product and service supply	Efforts to abide by service supply laws		86	●

# K-water KPI (Key Performance Indicator)

1) Starting in 2010, recent 4 year interests have been re-calculated to include financial expenses that have been capitalized.

	GRI	Indicators	Unit	2007	2008	2009	2010
Economy	EC01	Total Sales	KRW Millions in	1,812,905	2,044,533	2,005,384	2,144,750
	2.8	Dam water supply	Millionm <sup>3</sup>	4,757	4,847	4,867	5,045
	2.8	Service water supply	Millionm <sup>3</sup>	3,064	3,094	3,147	3,326
	2.8	Unit price for dam water supply	KRW/m <sup>3</sup>	47.93	47.93	47.93	47.93
	2.8	Unit price for service water supply	KRW/m <sup>3</sup>	292.5	292.5	292.5	292.5
	2.8	Accounted for Water Rate (Multi-Regional Waterworks)	%	99.7	99.8	99.8	99.8
	EC01	Interest Paid to Fund-Providers	KRW Millions in	51,717	57,844	78,288	215,091
	EC01	Dividends Distributed to Investors <sup>1)</sup>	KRW Millions in	26,104	24,285	12,643	20,606
	EC01	Operating Income to Sales	%	11.95	9.06	6.46	10.7
	EC01	Tax Amount Paid	KRW Millions in	68,929	52,533	23,581	31,728
	2.8	Number of Dam Water Customers	Sites	95	119	131	144
	2.8	Number of Service Water Customers	Sites	1,707	1,714	1,743	1,777
	PR05	Customer Satisfaction Index	Points	93.5	92.6	93.7	97.1
	Society	LA01	Total number of employees	People	4,249	4,029	4,031
HR04		Total number of female employees	People	376	385	393	423
		Labor hours (Statutory labor hours)	Hours/week	46.75(40)	46.75(40)	46(40)	40(40)
LA01		Number of New Employees	People	133	88	83	187
LA02		Employee Turnover	People	77	88	153	93
LA10		Number of Trainees	People	13,906	11,666	12,011	9,880
HR05		Labor-Management Agenda and Consensus	Cases	13	10	22	18
LA07		Industrial Accidents	Cases	14	13	14	13
LA07		Industrial Accident Rate	%	0.32	0.32	0.35	0.25
LA07		Patients	People	127	274	247	0
LA07		Prevalence Rate	%	3.1	6.6	5.9	6.4
EC09		Aid to Local Communities around Dams	KRW Billions in	520	532	556	581
EC09		Investment in Social Contribution Activities	KRW Billions in	540	543	596	597
Environment		EN16	Total Carbon Dioxide Emissions	tCO <sub>2</sub> e	488,305	495,240	505,712
	EN03	Total Energy Consumption	TJ	9,349	9,486	9,687	10,142
	EN03	Power Consumption for Water Purification	KWh/m <sup>3</sup>	0.3150	0.3182	0.3176	0.3183
	EN08	Total amount of water obtained	1,000m <sup>3</sup>	3,073,425	3,111,885	3,153,449	3,378,502
	EN06	Power Generated from Multi-purpose Dams	GWh	2,159	1,615	1,453	1,935
	EN22	Sludge from Water Treatment Plants	tonnes	97,458	84,679	90,717	104,976
	EN22	Total Recycled Sludge	%	100	100	100	100
	EN10	Quantity of Recycled Water (Head Office Consumption)	m <sup>3</sup>	8,079	8,065	8,056	7,840
	EN14	Young fish stock	One thousand fish	1,548	1,298	1,035	1,059
	EN21	BOD of Water Discharged from Water Treatment Plants	mg/L	2.8	2.3	2	1.8
	EN21	COD of Water Discharged from Water Treatment Plants	mg/L	5.3	4.4	4.3	3.8
	EN21	SS of Water Discharged from Water Treatment Plants	mg/L	4.8	3.9	3.8	3.1
	EN21	Water sewage treatment BOD	mg/L	1.9	2.1	2.2	1.9
	EN21	Water sewage treatment COD	mg/L	6.9	5.9	7.2	3.8
	EN21	Water sewage treatment SS	mg/L	2.7	2.9	3.5	3.1
		Replacement of Worn-out Pipes (Length)	km	12.5	15.5	19.5	24.9
		Replacement of Worn-out Pipes (Cost)	KRW Millions in	10,912	29,786	44,490	368
		Water Quality Control Cost per Ton (Unit Requirement of Chemicals)	KRW/m <sup>3</sup>	5.2	4.9	6.2	6.3
	EN30	Investment in Environmental Facilities	KRW 100 Million in	653	415	428	664
	EN30	Environmental Investment to Total Investment	%	10	6	5	5
	EN30	Environmental cost	KRW 100 Million in	1,210	1,380	1,207	1,351
	EN30	Environmental Cost to Project Cost	%	11	12	10	10
	4.15	Post Management Assessment to Maintain ISO9001/14001 Certification	Cases	1	1	1	1
4.11	Environmental Impact Assessment	Cases	1	2	4	4	
4.11	Preliminary Environmental Feasibility Review	Cases	6	3	7	9	



## Third Party's Assurance Report

### Dear Readers of K-water's 2011 Sustainability Report

#### • Foreword

The Korea Management Association Registration and Assessments (KMAR) had been engaged by K-water to verify the contents of its 2011 Sustainability Report (the Report). K-water is responsible for the collection and presentation of information within the Report. Our responsibility is to carry out assurance activities on specific information in the verification scope stipulated below.

#### • Our independence

With the exception of providing third party verification services, KMAR is not involved in any other K-water business operations that are aimed at making profits in order to avoid any conflicts of interest and to maintain independence.

#### • Verification scope

K-water described its efforts and achievements of its sustainability activities in the Report. The verification process was designed to provide readers with the following information;

Verification of the economic section: Review whether financial performance data has been extracted appropriately from K-water's 2010 Financial Statements Audit Reports and Annual Reports as defined in the Report's performances and conclusion sectors

Verification of environmental and social section: Review whether environmental and social information included in the Report is presented appropriately.

"Appropriately Presented" means that the actual data and the original information are appropriately reflected in the contents of the Report with consistency and reliability. For the economic sector, we based our evidence gathering procedures on reasonable assurance. It is a higher level of assurance than the limited verification in terms of the characteristics and the extent of performed tasks.

#### • Verification standards

KMAR performed the review based on our own verification. We also used AA1000AS(2008) and the International Auditing and Assurance Standards Board-issued "International Standard on Assurance Engagements (ISAE 3000): Assurance Engagements other than Audits or Reviews of Historical Financial Information" as additional guidelines.

#### • Verification process

In order to form our conclusion, KMAR undertook the steps outlined below to assess K-water's internal processes for reviewing the sustainability reporting practices.

Reviewed systems and processes used in producing data

Assessed internal documents and materials

Interviewed people in charge of disclosed activities and performances

#### • Conclusion

Based on the results we have obtained from material reviews, related department visits and interviews, we held several discussions with K-water on the revision of the Report. We reviewed the Report's final version in order to confirm whether our recommendations for improvement and revisions have been reflected.

In the results of verification, the verification team didn't find any inappropriate contents related to the compliance with the principle in the Report.

### **Inclusivity**

Inclusivity is the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability.

- K-water is developing and maintaining stakeholder communication channels in various forms and levels to make a commitment to be responsible for the stakeholders. The verification team didn't find any critical stakeholder group left out during this procedure.

### **Materiality**

Materiality is determining the relevance and significance of an issue to an organization and its stakeholders. A material issue is an issue that will influence the decisions, actions and performance of an organization or its stakeholders.

- K-water is determining the materiality of issues found out through stakeholder communication channels by its own materiality evaluation process, and the verification team didn't find any critical issue left out in this process.

### **Responsiveness**

Responsiveness is an organization's response to stakeholder issues that affect its sustainability performance and is realized through decisions, actions and performance, as well as communication with stakeholders.

- The verification team didn't find any evidence that K-water's counter measures to critical stakeholder issues was inappropriately recorded in the Report.

The verification result of the reliability of sustainability performance information is as follows:

#### **• Economic performance**

We compared the Report with K-water's 2010 Financial Statements and found that the financial data presented in the Report has been appropriately derived from 2010 Financial Statements.

#### **• Environmental and social performance**

We observed that the information contained in the environmental and social sections has been appropriately presented. We did not discover any significant errors.

#### **• Recommendation for improvement**

We hope K-water's publication of the Report is actively used as a communication tool with stakeholders and recommend the following for improvements.

- We recommend to improve performance report practice to help an easier understanding of stakeholders who are expected to be interested in the applicable performance.



July 21, 2011

Korea Management Association.  
Registrations & Assessments Inc.

CEO Ki Ho Park

*K. H. Park*

## ISO 26000

ISO 26000 is a guide of international standard methods used to integrate social responsibility throughout entire organizations for issues based on 7 main themes of social responsibility according to the basic principle of social responsibility by recognizing it and the identifying & participating of stake holders. K-water's detailed report of issues which is based on the 7 main themes of social responsibility is as follows.

Main theme	Issue	Page
Governance	Decision making process and structure	4, 5, 10-13
Human rights	Duty of using care	83
	Endangered situation of human rights	83, 84
	Avoidance of conspiracy	83
	Difficulty treatment	62, 83
	Discrimination and fragile group	83, 84
	Civil and political rights	83
	Economic, social and cultural rights	84
	Basic principle and rights in the workplace	83
Labor practice	Employment and employment relation	80, 81
	Labor condition and social protection	81
	Social conversation	81
	Health and safety in the workplace	81, 82
	Human resource development and education in the workplace	82
Environment	Contamination protection	77-79
	Use of the sustainable resources	76, 78
	Relaxation of climate change and adaptation	77
	Natural environment protection and restoration	77
Fair operation practice	Collapse protection 85	85
	Responsible participation into the politics	85
	Fair competition	85
	Activation of social responsibility within the value chain	83
	Property rights respected	84, 85
Consumer issue	Fair marketing, real and fair information and fair practice	86
	Securing the health and safety of the consumers	58, 59, 86
	Sustainable consumption	59
	Service, support, complaint and conflict resolution of consumers	86
	Consumer information protection and privacy	86
	Approach to the essential service	86
	Education of consumer citizens and understanding	86
Community participation and development	Community participation	68-71, 75
	Education and culture	69-71
	Employment creation and technique development	62, 69, 75
	Technology development and approach	75
	Creation of wealth and income	74
	Health	69
	Social investment	69

# Publishing the Sustainability Report

Efforts were taken to reflect the voices of our internal and external stakeholders when publishing this Report, and to ensure credibility, assurance on the contents of this report was provided by a third party.

The main objective of this Sustainability Report is to provide stakeholders with credible transparent corporate information and to gain the respect of the stakeholders. Matters of concern of the internal employees were accumulated through a survey, while those of the stakeholders were gained through advisors. The issues of concern were evaluated for their materiality and through the analysis of the evaluations, major issues of concern were established. K-water has tried to provide full disclosure of the performance indicators outlined by the G3 guideline, which is the international standard.

## • Scope of the Performance Indicator Report

The scope of this Report covers 32 domestic project sites, including the main office, and 6 overseas project sites, providing sustainable management statuses and performances. Since the accounting periods are the same for K-water and its investors, it does not affect the comparison in terms of the period or structure. Depending on the share ownership, the actual value method or the cost method is applied.

## • Performance Data Reporting Standard

K-water has made every effort to follow the reporting principles stated in the G3 guidelines when preparing this Report. Each of the economic, environmental and social performance data was derived based on the indicator covenants attached to the G3 guidelines. Environmental related data was mainly quoted from data derived from the Environmental Performance Evaluation electronic system, while financial data was derived

from audited financial statements and statements of accounts. Information related to society and other sectors were directly received from related departments. K-water has tried to provide greater clarity by providing 3-4 year performance indicator data, and ratios and absolute data at the same time.




## • Efforts to Enhance Sustainability

It has been 6 years since K-water first published its Sustainability Report. Over the course of 6 years, K-water has painstakingly tried to identify the expectations and concerns of the stakeholders, but there's still room for greater improvements. In the next Sustainability Report, K-water will listen more carefully to the suggestions of the stakeholders to create a more advanced Sustainability Report.

## • G3 Guideline Application Standard

K-water has tried to satisfy the requirements of 'A' standards outlined in the GRI GR3 Guideline for the "2010 Sustainability Report." An independent 3rd party assurance agency, Korean Foundation for Quality (KFQ), has verified that this report is compliant with 'A+', GRI G3 Guidelines.

## | GRI G3 Application Level Table |

Report Application Level		C	C*	B	B*	A	A*
Standard Disclosures	G3 Profile disclosure 	Disclosure items: 1.1, 2.1-2.10, 3.1-3.8, 3.10-3.12, 4.1-4.4, 4.14-4.15	Outside assurance of report	Disclosure items: All items of level "C*" and 1.2, 3.9, 3.13, 4.5-4.13, 4.16-4.17	Outside assurance of report	Disclosure items: Similar to Standard "B" request items	Outside assurance of report
	G3 Management approach disclosure 	Not required		Disclosure in management approach for each indicator		Disclosure in management approach for each indicator	
	G3 Performance indicator & additional industry indicators 	At least 10 performance indicators have to be reported (At least one or more economic, environmental and social indicators should be included)		Must only report 20 or more performance indicators (More than one indicator must be included related to the economy, environment, human rights, labor, society and product responsibility)		Based on importance principles, the reason for all G3 core performance indicators & industrial guideline indicators should be explained for either reporting or not reporting	

## Code of Ethics Preamble, Environmentally-friendly Management Principles, Customer Charter Preamble, Mission Statement for Innovative Vision

### Code of Ethics Preamble

Korea Water Resources Corporation is an organization for Korean people to develop, maintain and preserve Korea's water resources to make sure they are sustainable environmentally, economically and socially, and to provide them with the best products and services in order to contribute to improved quality of life and national development. With this pride and confidence, we commit ourselves to the following code of ethics to be reborn as a world-renowned corporation specializing in water in this era of water in the 21st century.

To accomplish our mission with a creative and open-to-challenge mind and do our given work with honest and fair attitudes and to make efforts for transparent management.

To commit ourselves to environmentally-friendly management with a keen awareness that the environment is an invaluable asset to hand down to the next generation and a foundation for a healthy and pleasant life. To provide customers with the best products and services to ensure customer satisfaction and value-oriented management to live up to customer-first principles.

To respect local traditions and cultures, contribute to community development and enrich the lives of community members with due obligation as a community member.

To observe moral and legal values, respect market orders of free competition, and pursue fair competition.

To respect individual persons without any discrimination and respect differences and creativity.

To develop a partner relationship between union and management based upon trust and harmony with a strong sense of unity to pursue mutual prosperity.

\* For detailed information on ethical principles and the employee code of conduct, please refer to our homepage ([www.kwater.or.kr](http://www.kwater.or.kr)), Ethical Management.

### Environmentally-friendly Management Principles

K-water is keenly aware of the need for the utmost effort for sustainable development in harmony with nature for more pleasant and better-to-live-in environment. In this vein, therefore, K-water, as a corporation specializing in water, the origin of life, announces the following environmentally-friendly management principles in order to be reborn as an environmentally-friendly corporation loved and trusted by people.

To take the lead in preserving clean water and air and healthy natural environment.

To predict the effects of water resources development and management on the environment and consistently pursue the preservation of the eco-system, prevention of pollution and environmental improvement in order to make sure that our activities are in harmony with environmental preservation.

To establish sound consumption culture of cutting down on supplies and energy and recycling them and always be alert against environmental destruction out of carelessness.

To accommodate people's opinions as much as possible in making environmental related plans and promote trust and transparency of our business by opening related information and materials.

To bear the primary obligation of preventing environmental pollution in advance, make efforts to settle problems in case pollutions take place, and bear in mind that words put into practice are the fundamentals of corporate ethics.

To constantly offer employees environmental training and focus on research and development for environmental preservation and improvement to ensure that our activities for the environment suit codes of ethics.

All the employees of K-water hereby declare that we do our utmost to guarantee that future generations will live in a pleasant environment by putting the principles into practice.



### Customer Charter Preamble

K-water is a public enterprise that enhances the quality of life for the public and contributes to national development by providing the best product and service, and by sustainably developing, managing and preserving our water resources environmentally, economically and socially. With this pride and confidence, we are entering the "21st Century Era of Water." To fully establish ourselves as a global water company, we commit to the following:

To establish credibility from our customers, we will stably provide high quality water and land.

To guarantee our customers' safety and property rights, we will provide necessary information and services even before our customers' request it. To continuously improve customer service, we will regularly collect opinions from our customers by carefully listening to our customers' advice and suggestions.

To maximize customer benefits, we will strive to achieve management efficiencies and carry-out duties without discrimination towards all customers.

To be able to achieve these objectives, we will establish the highest performance standards. We also promise to abide by these standards.

### Mission Statement for Innovative Vision

To provide people with clean and safe water, protect their lives and property from disasters caused by water, to be reborn as the best water service organization through change and innovation, K-water declares the following:

To make customer satisfaction top priority in management and rectify existing practices, systems and values to be customer-driven.

To do our work with honest and fair attitudes without deviating from conscience, common sense and law to be a trustworthy public corporation, and to actively participate in socially beneficial activities to engage in the community.

To secure a world-level competitive edge to achieve our vision with confidence and passion defying changes and establish a sustainable and stable foundation for growth.

To raise awareness of the importance of the environment for a healthy life and sustainable growth of the future generations and to make efforts to preserve the environment.

K-water will concentrate on devoting itself to growing into a business that works well, has a competitive edge and is loved by people by putting the above mentioned statements into practice.

# UN Global Compact

The principles of Global Compact are based on the following international agreements.



- Universal Declaration of Human Rights
- International Labor Organization's (ILO) "Declaration of the basic principles and rights of Labor"
- Rio Declaration on the Environment and Development
- United Nations Convention against Corruption

The Global Compact urges corporations to uphold, select and legalize the 4 major provisions, which include human rights, labor, environment and anticorruption.



- Principle 1 : We support and respect the protection of internationally proclaimed human rights.
- Principle 2 : We confirm that we do not complicit human rights abuses.



- Principle 3 : We uphold the freedom of association and the effective recognition of the right to collective bargaining.
- Principle 4 : We uphold the elimination of all forms of forced and compulsory labor.
- Principle 5 : We uphold the effective abolition of child labor.
- Principle 6 : We uphold the elimination of discrimination in respect of employment and occupation.



- Principle 7 : We support a precautionary approach to environmental challenges.
- Principle 8 : We undertake initiatives to promote greater environmental responsibility.
- Principle 9 : We encourage the development and diffusion of environmentally-friendly technologies.



- Principle 10 : We work against corruption in all its forms, including extortion and bribery.

**K-water is upholding and practicing the 10 principles of the UN Global Compact**

President of K-water Kim Kuen Ho

# Declaration Glossary

- **Green Dirt** Dirt used to spray over dirt to make a foundation for grass to grow.
- **Membrane filtering processing** This is the technology that is widely used for industrial ultra-pure manufacturing or water purifier for homes and this advanced water purification technique produces clean water by filtering into polymer membrane for water containing pollutant substances.
- **Non-point Pollution Source** A pollution source having an irregular discharge route, unlike point pollutants sources, such as human populations or livestock having regular points of discharge. This source pollution is calculated by the pollution load arising from land use in watersheds (including paddies, fields and forest), and usually discharged to water system by rain.
- **Disinfection by-product** Cancer-causing substance such as THM or HAA that is produced when disinfection products used in the purification process reacts to organic compounds in the water.
- **New and Recyclable Energy** Three kinds of new energy including hydrogen, fuel cells, and liquefied coal gas and eight kinds of recyclable energy including solar heat, solar light, bio energy, wind power, hydro-electric power, terrestrial heat, marine energy and energy from waste.
- **Sludge** Sediments produced from sewage treatment or water purification process.
- **Prevalence** This is the ratio that displays the number of patients surveyed in particular time at a particular region on to the number of the population in the area.
- **Life Cycle Assessment (LCA)** Technique for evaluating environmental impact of a product or service by quantitatively measuring the substances and energy consumed and discharged in an entire process of the product or service.
- **Environmental Impact Assessment** Estimations analyses and assessments of the impact of Social Overhead Capital (SOC) facilities, such as roads, ports, railroads, airports and industrial complexes, as well as reclamation projects, on the environment.
- **Activated Carbon** A form of carbon that has been processed to make it extremely porous and thus to have a very large surface area available for adsorption or chemical reactions. It is applied to one of the advanced water treatments for odor removal.
- **Deep Sea Water** Deep sea water is the sea water from 200m or deeper where the solar light does not reach and the facilitation and importance have been increased in diverse fields, such as, fishery, food, beverage, makeup product, medicine and others.
- **BSC(Balanced Scorecard)** Performance management system consisting of comprehensive indexes that enables to measure mission and strategy of an organization.
- **CDM(Clean Development Mechanism)** One of the Kyoto Mechanisms under which developing countries can participate in the reduction of greenhouse gas emissions.
- **COD(Chemical Oxygen Demand)** Amount of oxygen consumed by oxidizing pollutants contained in water by an oxidizing agent. Higher levels of COD indicate higher water pollution amounts.
- **CRM(Customer Relation Management)** A strategy to obtain new customers, keep relations with existing customers, and to maximize customer's lifetime value by supplying products and services in customers' needs.
- **GRI(Global Reporting Initiative)** Organization founded with the support of the UNEP in 1997 to develop the guidelines for "Sustainable Management Reports."
- **CS(Customer Satisfaction)** Customer satisfaction to the product and service
- **CSR(Corporate Social Responsibility)** Social responsibility of the Corporation.
- **EPE(Environmental Performance Evaluation)** Customer expectations and requirements to the products and services provided by the company.
- **ISO14001** International environmental management system standards as prescribed by the ISO (International Organization for Standardization).
- **ISO 26000(International standard for the social responsibility)** It was issued by the International Organization for Standardization (ISO) in November 2010. An international master guideline of standardized social responsibility which covers the many conventional guidelines for the 7 core subjects and management integration such as the participation and development of every organization into the governance, human rights, labor practice, environment, fair operation practice, consumer issue and communication.
- **JOA(Join, Open, Advance)** Unique innovative technique of K-water for problem solving. The work-out method of GE was modified and developed in adjustment to the environment of K-water.
- **K-sigma(K-water/Knowledge Sigma)** 6 sigma emphasizing the cost reduction and process improvement and unique innovative method of K-water in combination of removing the unnecessary affairs and encouraging the R&D activities.
- **MTV(Multi-Techno Valley)** 21st century type cutting edge complex such as the electronics/electricity, R/D which are established on the northern reclaimed land of Sihwa.
- **NTU(Nephelometric Turbidity Unit)** Unit for measuring the turbidity. The turbidity of the water measured using the intensity of the light scattered by projecting on the specimen.
- **QPI(Quality Performance Index)** K-water unique automatic evaluation method on the tap water quality control performance index, tap water quality and level of effort to control the water quality utilizing the IT and web technology.
- **RPA(Renewable Portfolio Agreement)** The investment agreement entered between the government-Development company for the development and distribution of new recyclable energy.
- **SS(Suspended Solid, Floating material)** The particles of diameter over 0.1 $\mu$ m which float in the water. It makes the turbidity of the water.
- **SQI(Service Quality Index, Service quality index)** Objective measuring index for the core quality of service to prevent the combination of service process and to improve the quality.
- **TOE(Ton of Oil Equivalent)** The amount of energy use such as use of electrical energy, gas and oils, converted to crude oil (tones).
- **UNFCCC(United Nations Framework Convention on Climate Change)** A convention organized to regulate artificial emissions of greenhouse gases for prevention of global warming. Its full name is the United Nations Framework Convention on Climate Change).
- **VOC (Voice of Customers)** An expected or requested matter of customers on products and services provided by the company.

The staff who participated in development and issuance of this report.

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This report can be downloaded in PDF file format from the K-water homepage ([www.kwater.or.kr](http://www.kwater.or.kr)).  
Anyone who would like more detailed information on sustainable management activities and outcomes introduced in this report, please contact the following person in charge of this report.  
We deeply appreciate you for your profound interest on the sustainable management activities of K-water.

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## Readers' Voice

We are grateful to all our stakeholders that have an interest in K-water's sustainable management and have read the '2011 sustainable management Report.' Each opinion and suggestion provided by you will be preciousy utilized in further developing K-water's sustainable management. We value and accept your suggestions and we will try to reflect the suggestions in the next report.

K-water Management Services Dept. Performance Management Team / Fax : 042) 629 - 2399 E-mail : sustainability@kwater.or.kr

Paste here!

### From

Name \_\_\_\_\_

Telephone \_\_\_\_\_

E-mail \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

-

Paste here!

Paste here!

### To

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K-water Management Services Dept.

-

The most precious values

*Water Nature and People*



 K water



## About K-water's Sustainability Report 2011...

1. Which of the following would best describes you?

- ① Customer    ② Investor/Shareholder    ③ Government/Civil Servants    ④ Local Residents
- ⑤ Citizens, Social Group, NGOs    ⑥ Business partner    ⑦ Scholar
- ⑧ Journalist    ⑨ K-water employee    ⑩ Others (                                 )

2. What brought your attention to K-water's Sustainability Report?

- ① K-water's homepage    ② Internet Search engine    ③ Newspaper/Magazines
- ④ Recommendation by K-water staff    ⑤ Others (                                 )

3. Which section was the most interesting?

- ① Strategy    ② Approach    ③ Challenges(Green Economy)
- ④ Challenges(Green Environment)    ⑤ Challenges(Green Society)    ⑥ Performances

4. Which section do you think needs improvement?

- ① Strategy    ② Approach    ③ Challenges(Green Economy)
- ④ Challenges(Green Environment)    ⑤ Challenges(Green Society)    ⑥ Performances

5. Please feel free to give us your comments about the overall structure and contents of this report or our activities.

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**We are waiting for your valuable opinions.**

Your opinion will be of great help

and will be used to continue sustainable management activities.

We will review your opinions and we will reflect them in our next report.